

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 9  
75 Hawthorne Street  
San Francisco, CA 94105-3901**

September 22, 1999

Mr. Jack E. Little, President  
Shell Oil Company  
One Shell Plaza  
910 Louisiana  
Houston, TX 77002

**VIA FEDERAL EXPRESS**

Mr. C. E. Dunagan, President  
Shell Oil Products Company  
One Shell Plaza  
910 Louisiana  
Houston, TX 77002

**VIA FEDERAL EXPRESS**

Mr. Jim Morgan, President  
Equilon Enterprises, LLC  
1100 Louisiana  
Houston, TX 77002

**VIA FEDERAL EXPRESS**

Re: Charnock Sub-Basin MTBE Contamination  
PRP Site No. 11 – 3801 Sepulveda Boulevard, Culver City, California  
Issuance of Unilateral Administrative Order  
Docket No. RCRA-7003-09-99-0007

Dear Messrs. Little, Dunagan, and Morgan:

The United States Environmental Protection Agency (“EPA”) hereby issues the enclosed Unilateral Administrative Order, Docket Number RCRA -7003-09-99-0007 pursuant to Section 7003 of the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. Section 6973, to address MTBE and other gasoline constituent contamination that may pose an imminent and substantial endangerment to public health and the environment. EPA is taking this enforcement action as a result of releases of MTBE and other gasoline constituents from the gasoline service station at 3801 Sepulveda Boulevard in Culver City, California (PRP Site No. 11). EPA has determined that these releases have impacted the Charnock Sub-Basin and its beneficial use as a drinking water supply and therefore may pose an imminent and substantial endangerment to health and the environment. The Order requires Shell Oil Company, Shell Oil Products Company, and Equilon Enterprises, LLC to provide replacement water to the City of Santa Monica and Southern California Water Company commencing on January 7, 2000 for a period of five years.

It is EPA’s understanding that the California Regional Water Quality Control Board, Los Angeles Region, (“Regional Board”) intends to issue a parallel order under State authorities with an identical scope of work. The purpose of these parallel orders is to allow the EPA and Regional Board to effectively continue our joint enforcement action to prevent exposure to contaminated groundwater and to investigate and remediate the Charnock Sub-Basin MTBE contamination.

If you have any technical questions regarding the Order, please contact Steven Linder at (415) 744-2036 or Greg Lovato at (415) 744-2112. For any legal questions, please contact Laurie Williams at (415) 744-1387.

Sincerely,

*Original signed by*

Julie Anderson, Director  
Waste Management Division

Enclosure: Unilateral Administrative Order, RCRA 7003-09-99-0007

cc: (hard copy w/ Enclosure)  
Tom Kearns, Shell Oil Company  
Chuck Paine, Shell Oil Company  
Dennis Dickerson, Regional Water Quality Control Board, Los Angeles Region  
David Bacharowski, Regional Water Quality Control Board, Los Angeles Region

(electronic copy)  
Bill McKinney, Shell Oil Company  
Brad Boschetto, Equiva Services LLC  
Cynthia Burch, Munger, Tolles & Olson  
Brad O'Brien US Department of Justice  
Jorge Leon, Office of Chief Counsel, State Water Resources Control Board  
Marilyn Levin, California Department of Justice  
Gary Yamamoto, California Department of Health Services  
Heather Collins, California Department of Health Services  
Craig Perkins, Environment & Public Works, City of Santa Monica  
Joseph Lawrence, Assistant City Attorney, City of Santa Monica  
Denise Kruger, Southern California Water Company  
Walter Crone, Ninyo and Moore  
Michael Schwennessen, Ecology and Environment  
Gilbert Borboa Jr., Utilities Manager, City of Santa Monica  
Rey Rodriguez, H<sub>2</sub>O•R<sup>2</sup> Consultants  
Angelo Bellomo, Environmental Strategies Corporation  
Anthony Brown, Komex H2O Science, Inc.  
James Farrow, Komex H2O Science, Inc.  
Barry Groveman, Special Environmental Counsel for City of Santa Monica  
Rob Saperstein, Hatch & Parent  
Toby Moore, Mission Geoscience  
Steve Ghio, Chevron Products Company  
A. Todd Littleworth, Chevron Products Company  
Jerry Ross, Pillsbury, Madison, and Sutro  
Jennifer C. Sedlachek, Exxon Company USA  
Larry Lindeen, Exxon Company USA

David Bates, Wynne, Sewell & Riggs  
Kenneth Erlich (for Winall Oil Company)  
Chris Panaitescu, Thrifty Oil Company  
Mark Gilmartin, Gilmartin & Le Berthon  
Meena Nainan, Mobil Business Resources Corporation  
Elizabeth Haeglin, Mobil Business Resources Corporation  
Marsha Croninger, McDermott, Will & Emery  
Richard Williams, Unocal Asset Management Corporation  
Brendan Dixon, Unocal  
Ward L. Benshoof, McClintock, Weston, Benshoof, Rochefort, Rubalcava, MacCuish LLP  
H.C. Winsor, Arco Products Company  
Beth Dorris, Arco Products Company  
Michael T. Vander Plaats, Tosco Marketing  
Jeffrey Dill, Tosco Corporation  
Carmen Trutanich, Trutanich & Michel LLP (for Powergas)  
June Ailin, Kane, Balmer & Berkman (for Culver City)  
William Evans, Caltrans  
Sheila Welch (for Great West Carwash and Albertson Brothers Oldsmobile)  
John Cernak, Rodi, Pollock, Pettker, Galbraith & Cahill (for H.L.W. Corporation)  
Kim Burns, Conoco, Inc.  
Michael Steinberg, Morgan, Lewis, & Bockius  
David Cranston, Greenber, Glusker, Fields, Claman & Machtinger LLP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

In the Matter of:	)	
	)	
SHELL OIL COMPANY, SHELL	)	U.S. EPA Docket No.
OIL PRODUCTS COMPANY,	)	RCRA 7003-09-99-0007
EQUILON ENTERPRISES LLC,	)	
	)	
	)	
Respondents.	)	
_____	)	

UNILATERAL ADMINISTRATIVE ORDER  
FOR WATER REPLACEMENT

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## **ATTACHMENTS**

### **Figure 1 - Map of Charnock Sub-Basin Investigation Area**

#### **A. Scope of Work for Water Replacement**

B. Documentation of Historic Production from the Charnock Wellfields

C. Documentation of Water Replacement Costs

**Respondents' Status:**

D. Documentation of California Secretary of State and Board of Equalization Records

E. January 21, 1999 letter from Kathleen Gillmore, Equiva Services, to Laurie Williams, EPA, and Jorge Leon, California State Water Resources Control Board re: transfer of PRP Sites Nos. 11, 18, and 40 to Equilon.

**Use of MTBE Information:**

F. April 10, 1990 Material Safety Data Sheet ("MSDS") for Shell Oil Company Super Unleaded Gasoline (SU 2000E). According to the MSDS, SU2000E contained MTBE at 5% to 11% by volume.

G. June 25, 1996 Letter from P.J. Pugnale, Manager Engineering, Shell Oil Products Company, and L.W. Alexander, Manager Environmental and Technical, Shell Pipeline Corporation, to Robert Ghirelli, Executive Officer, California Regional Water Quality Control Board, Los Angeles Region, noting that Shell Oil Company SU2000E gasoline containing MTBE was introduced in the first quarter of 1990 and that all Shell gasoline sold in California contained MTBE after October 1992. The letter also notes that "small amounts" of gasoline purchased by Shell during the 1980's and early 1990's may have contained MTBE.

**Action Level for Tertiary Butyl Alcohol (TBA):**

H. June 2, 1999 Memorandum from George Alexeef, California Office of Environmental Health Hazard Assessment to David Spath, California Department of Health Services re: risk assessment of tertiary butyl alcohol ("TBA") in drinking water; and California Action Level for TBA.

**Lease and Sublease Information:**

I. Lease and Amendment of Lease: January 25, 1979 Lease between Shell Oil Company (lessee) and Paul D. Myers, Trustee EBM-RT Trust, and Yvonne Sammann Berry, Trustee, MEBS-RT Trust

(lessors), re: lease of property at 3801 Sepulveda Boulevard for an automobile service station; and April 14, 1982 Agreement Amending Lease between Shell Oil Company (lessee) and Paul D. Myers, Trustee EBM-RT Trust, and Yvonne Sammann Berry, Trustee, MEBS-RT Trust (lessors) re: amendment of January 25, 1979 lease.

- J. Subleases (1982 and 1984): August 1, 1982 Motor Fuel Station Lease between Shell Oil Company (sublessor) and Charles Abrams (sublessee) re: PRP Site No. 11; and March 7, 1984 Motor Fuel Station Lease between Shell Oil Company (sublessor) and Charles Abrams (sublessee) re: PRP Site No. 11.
- K. Subleases (1987 and 1990): March 16, 1987 Motor Fuel Station Lease between Shell Oil Company (sublessor) and Charles Abrams (sublessee) re: PRP Site No. 11; and August 1, 1990 Motor Fuel Station Lease between Shell Oil Company (sublessor) and Charles Abrams (sublessee) re: PRP Site No. 11.
- L. Assignment of Sublease (1995) and 1995 Renewal: March 29, 1995 Letter from J.F. Terry, Shell Oil Company, to Charles Abrams, re: Consent to Assignment of Lease for PRP Site No. 11 to Abrams & Blanco, Inc.; and August 1, 1995 Motor Fuel Station Lease between Shell Oil Company (sublessor) and Abrams & Blanco, Inc. (sublessee).
- M. January 10, 1997 Location Data Record re: Shell groundlease of PRP Site No. 11, including current rent amount and renewal options available.
- N. January 31, 1997 Asset Ledger by Location re: Shell Ownership of Improvements and Equipment at PRP Site No. 11.

Environmental Release Information:

- O. September 15, 1988, Service Report for 3801 Sepulveda Shell station, from Adams Precision Instrumentation, Co., stating "called out as customer complaint of leak on red jacket of RU product and wanted to know why system did not shut down. . . Leak was taken care of by Steve of the regular maint. co for this station."
- P. September 23, 1988 Letter from Randy Brand and David Henry, Wayne Perry Construction, Inc., to Ray Alyshmerni, Shell Oil Company, re: Leak Detection Investigation at PRP Site No. 11 showing 1 detection of TPH at 5 feet depth.



- Q. February 1, 1990, Service Report for 3801 Sepulveda Shell station, from Adams Precision Instrumentation, Co., reporting service call to check out a problem with leak detection sensors.
- R. June 12, 1990 letter from Service Station Services to County of Los Angeles, Department of Public Works (LADPW), enclosing Underground Tank Testing Results for PRP Site No. 11. Attachment is May 31, 1990 Letter from Precision Tank Testing Inc., showing that all tanks tested tight.
- S. July 11, 1990 letter from Wayne Perry Construction, Inc., to LADPW providing additional information required for the Leak Detection Program/Tank Monitoring Program.
- T. February 25, 1991 correspondence from Wayne Perry Construction, Inc. to Shell Oil Company re: results of Supplemental Site Investigation for 3801 Sepulveda. The investigation was performed in February, 1991, in order to comply with Leak Detection/Tank Monitoring Program. Hydrocarbons occurred in boring B-9 at 10 to 25 feet below ground surface. The highest levels were total petroleum hydrocarbons, detected at 10 feet at 6,810,000 parts per billion ("ppb")(B-9 at 10 feet bgs). Boring B-9 was located adjacent to a pump island and approximately 20 feet from the Super Unleaded tank). February 27, 1991 correspondence from Wayne Perry to Los Angeles Department of Public Works, enclosing the February 25, 1991 Supplemental Site Investigation.
- U. 1991-1992 Quarterly Inventory Reporting for PRP Site No. 11, showing inventory variations.
- V. July 9, 1991 Notice of Noncompliance from LADPW to Shell Oil Company, stating that Shell was notified on November 28, 1990 to submit a Leak Detection Program, Tank Monitoring Program final report by February 28, 1991, and that Shell had failed to do so.
- W. July 22, 1991 Underground Storage Tank Unauthorized Release (Leak) Contamination Site Report, describing a leak of gasoline found at PRP Site No. 11 during a site investigation by Simin Agahi.
- X. September 26, 1991 letter from Thierno Diallo, LADPW, to Lisa Morris, Shell Oil Company, requiring tank integrity testing of all tanks at 3801 Sepulveda Boulevard based on the Quarterly Inventory Report dated July 16, 1991 for that facility.

- Y. Leak from Tank Top of SU2000E Tank: November 19, 1991 Letter from Service Station Services to LADPW, enclosing results of tank integrity testing for PRP Site No. 11 and acknowledging that the test indicated "a failure to the Super Unleaded product vent/vapor recovery line," that was subsequently repaired. Attachments are October 28, 1991 letter from Milligan Testing & Service, Inc. to Shell Oil Co. summarizing a detection at the "tank top" of the SU-2000E tank and November, 1991 letter from Bill's Service Station Maintenance, Inc. describing repair, and November 12, 1991 letter from Milligan Testing & Service confirming that the tank tested tight after the repair. November 20, 1991 facsimile from Carey Wehrli, of Service Station Services, to Larry Gordon, noting repair and "discrepancies."
- Z. SU2000E Tank Fails Tank Integrity Test: March 9, 1992 Letter from Dave Milligan and Thomas Latkovich, to Rob McLaren, Shell Oil regarding tank integrity testing at PRP Site No. 11, and showing that the SU2000E tank failed the test, with a leak rate of 6.3287 gallons per hour.
- AA. March 16, 1992 Underground Storage Tank Unauthorized Release (Leak) Contamination Site Report, describing a release of Super Unleaded Gasoline discovered on March 7, 1992.
- BB. March 17, 1992 letter from George Crosby and Bruce Kara of O/C Tanks, to Ahmad, A&S Engineering, requesting a permit to allow O/C Tanks field service technicians to enter a single walled tank at Sepulveda and Venice (PRP Site No. 11) to make necessary repairs, noting "we were first contacted in February 1992 that there was a problem with the tank."
- CC. March 25, 1992 Shell Oil Company Environmental Incident Report for 3801 Sepulveda, describing the "incident" as SU2000E Tank Test Failure.
- DD. March 26, 1992 Application for Temporary Closure Permit from Shell Oil Co. to LADPW with note stating "not issued, see tank removal permit #9067B."
- EE. Inspector Finds Six Inch "Rot" on bottom of SU2000E Tank: June 19, 1992 Closure Inspection Report for 3801 Sepulveda by County of Los Angeles Department of Public Works Inspector, I. Azie, noting "Tank 2 had a rot on bottom (about 6 inch diameter, located about 3 feet from southern end of tank and a crack around middle of tank. . ." and providing a diagram of the station showing the location of

the problem.

- FF. August 1992, Tank Removal Report by Fugro-McClelland (West), Inc. showing that sample number D-4 (see Plate 1) taken approximately 10 feet from the southern side of the SU2000E tank contained TPH at 2,212,500 ppb; sample 2A contained TPH at 1,987,000 ppb. No MTBE analyses were reported for these samples.
- GG. August 19, 1992 Tank Removal Report Recommendations from Fugro-McClelland (West) to John Stevens of Shell Oil Company, noted that four storage tanks were removed from the site on June 19, 1992 following suspected failure of one of the tanks and that "soils that appeared to be impacted with gasoline were kept onsite and backfilled into the diesel tank excavation." The report also states that Sample 2A was taken "below the leaking point of Tank 2 [the SU2000E tank]" and that "the ratio of volatile hydrocarbons in this sample suggested that the gasoline was not weathered."
- HH. Shell Calculates Leak of MTBE Gasoline - 9000 Gallons Since December 1991: 1993 Facsimile from Carey Wehrli, Shell, L.A. West Retail District Office, Woodland Hills, California, sent a facsimile to Mike Claudio, containing a handwritten "sequence of events" regarding the release at "Sepulveda/Venice" (PRP Site No. 11) and stating that the SU2000E tank "fails" during tank testing on March 7, that 36 gallons were lost during the test, and "[c]heck of dealers books show 9,000 gallons lost since Dec." November 19, 1991 Letter to Larry Gordon (Attachment Y) stated that Wehrli was an "Environmental Analyst" and November 28, 1994 Fugro-West SVE Pilot Test Interpretation Report (Attachment LL) was directed to "Mike Claudio, Environmental Engineer."
- II. August 1993, chromatographs from Crosby Laboratories Inc., for Sepulveda & Venice (PRP Site No. 11), show MTBE present in samples from borings adjacent to the former location of SU2000E tank, and provide estimates of MTBE concentrations as high as 643,000 ppb at 40 feet bgs.
- JJ. November, 1993, Site Assessment Plan for 3801 Sepulveda, by Fugro-McClelland (West), Inc. noting levels of TPH in soil up to 20,676,000 ppb and the presence of free-phase gasoline in groundwater monitoring wells and stating that recovery of free product by weekly bailing was initiated on September 20, 1993.
- KK. August 1994 Supplemental Assessment Report by Fugro West, Inc. to Shell Oil Company, describing site investigation.

The report states that "[s]ince manual recovery operations began in November 1993, 248 gallons of separate phase hydrocarbons have been recovered at the site. Plates 8, 9 10 and 11 provide contours of the estimated extent of total petroleum hydrocarbon contamination at depths of 25 feet bgs, 50 feet bgs, 75 feet bgs, and at the capillary fringe (85-100 feet bgs), respectively."

- LL. November 1994, Soil Vapor Extraction Pilot Test Interpretation Report documents the installation of vapor extraction wells and their estimated zone of influence.
- MM. Purging By Manual Bailing: April 27, 1995, Inspection Request Form, indicates that Shell's contractor Wayne Perry, Inc. planned to perform purging and sampling of wells, by manual bailing, on May 4, 1995.
- NN. May 4, 1995 LADPW LOP Purging and Sampling Report, showing that floating product of 3.73 feet in thickness was found at PRP Site No. 11, and that hand bailing was used to remove it; a total of 14 gallons of floating product were removed from 5 wells. A note on the Inspector's Report states "Free Product Removed Weekly."
- OO. June 5, 1997 Letter to Phillip J. Carroll, President Shell Oil Company, from Dennis Dickerson, LA RWQCB, and Julie Anderson, EPA, to Phillip Carroll, Shell Oil Company re: MTBE Investigation of Charnock Sub-Basin.
- PP. June 19, 1997 Letter to Phillip J. Carroll, President Shell Oil Company, from Dennis Dickerson, LA RWQCB, and Julie Anderson, EPA, to Phillip Carroll, Shell Oil Company re: Investigation of PRP Sites Nos. 11, 18 and 40.
- QQ. Shell Provides Summary to the Agencies of Tank Integrity Testing Which Omits Tank Failure and Leak Detection: July 24, 1997 Correspondence from Shell Oil Products Company responding to the Agencies' June 19, 1997 information requests. Documents provided in that submittal included the "Summary of Site Investigations and Activities at 3801 Sepulveda," which noted that measured separate phase hydrocarbon thickness decreased from a maximum of 10.05 feet on May 6, 1996, to zero on March 14, 1997. A "Summary of UST Integrity Tests" showed only the results of tests passed, and omitted both the October 24, 1991 Helium Detection at the SU2000E tank top, and the March 7, 1992 SU2000E tank integrity test failure.
- RR. March 24, 1998 Letter from Dennis Dickerson, LA RWQCB, and

Julie Anderson, EPA, to Phillip Carroll, Shell Oil Company  
re: Investigation of PRP Site No. 46 (Shell Pipeline).

- SS. Site Assessment Report Confirms Cross-Screened Wells Created Pathway to Drinking Water Aquifer: June 15, 1998, Site Assessment Report, Shell Oil Products Company Station, 3801 Sepulveda Boulevard (at Venice Boulevard), Culver City, California by Wayne Perry, Inc., Page 43 (re: groundwater levels and groundwater flow gradient); Figure 8, cross-section C-C'; and Appendix D Log for Well MW-19s, at page D-18. Table 2 and Table 7 when read together show that the borings for MW-1, MW-2, MW-4, and MW-5 were drilled through the aquitard between the shallow and drinking water aquifers and cross-screened, creating a conduit for the downward migration of contamination.
- TT. MTBE WHITE PAPER by C.C. Stanley, W.G. Rixey and C.Y. Chiang, Shell Westhollow Research Lab, Houston, Texas. This 1992 research paper states that MTBE plumes "move essentially with the groundwater velocity. Present data indicate that MTBE also does not biodegrade in the subsurface environment. Thus, MTBE plumes are expected to move faster and further than the benzene plumes emanating from a gasoline spill."
- UU. Agencies' Determination Letters: Four letters providing determination regarding sites for which Respondents have responsibility: (1) July 20, 1998 letter requesting Shell's participation in settlement negotiations; (2) letters dated July 30, 1998, September 30, 1998 and October 28, 1998, informing Shell of the Agencies' determinations that PRP Sites Nos. 40, 18 and 11, respectively, had released MTBE affecting the Charnock Sub-Basin.

## **INTRODUCTION**

This Order requires Respondents, Shell Oil Company ("Shell"), Shell Oil Products Company ("Shell Products") and Equilon Enterprises LLC ("Equilon") ("collectively "Respondents"), to provide Water Replacement to the City of Santa Monica ("City") and the Southern California Water Company ("SCWC") (collectively "the Impacted Parties") for a period of five years beginning January 7, 2000. This provision of Water Replacement is necessitated by the presence of the gasoline additive methyl tertiary-butyl ether ("MTBE") and other gasoline constituents in the Charnock Sub-Basin, formerly a drinking water supply for the Impacted Parties. Respondents have responsibility for releases from gasoline service stations that have discharged MTBE and other gasoline constituents adversely affecting the Charnock Sub-Basin and its beneficial use as a drinking water supply.

### **I. JURISDICTION AND PROCEDURE**

1. This Administrative Order is issued to Respondents Shell, Shell Products and Equilon by the United States Environmental Protection Agency ("EPA") pursuant to the authority vested in the Administrator of EPA by Section 7003 of the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Section 6901 et seq. ("RCRA"), which authority has been duly delegated to the Regional Administrator of EPA, Region IX, and redelegated to the Director of the Waste Management Division, Region IX. Notice of this Order has been provided to the State of California, as may be required by Section 7003(a) of RCRA, 42 U.S.C. Section 6973(a).

### **II. PARTIES BOUND**

1. This Order shall apply to and be binding upon the Respondents identified in paragraph I.1., above, and their directors, officers, employees, agents, successors and assigns and upon all other persons and entities who are under the direct or indirect control of Respondents including, but not limited to, any contractors or independent agents or consultants acting under or for each of the Respondents in performing their obligations under this Order, until such time as the Work to be performed

under Section VI has been completed.

2. No change in the ownership or legal status of Respondents, or of any property to which access is required for performance of the Work, will in any way alter Respondents' obligations and responsibilities under this Order.
3. Respondents shall provide a copy of this Order and all other documents approved under or pursuant to this Order which are relevant to conducting the Work to each contractor, subcontractor, laboratory, or consultant retained to perform any Work under this Order, within five (5) days after the Effective Date of this Order or on the date such services are retained, whichever date occurs later. Respondents shall also provide a copy of this Order to each person representing any Respondent with respect to the Work and shall condition all contracts and subcontracts entered into for that purpose upon performance of the Work in conformity with the terms of this Order. Notwithstanding the terms of any contract, Respondents, and each of them, are responsible for compliance with this Order and for ensuring that their contractors, subcontractors and agents comply with this Order, and perform all Work in accordance with this Order.
4. At all times after service of this Order, Respondents shall provide a copy of this Order to any prospective owners or successors before a controlling interest in Respondents' assets, property rights or stock are transferred to the prospective owner or successor. Respondents shall notify EPA at least seven (7) days prior to such transfer.

### **III. FINDINGS OF FACT**

#### **A. Discovery of MTBE Contamination at Santa Monica's Charnock Wellfield and Shutdown of the Charnock Wellfields**

1. In August 1995, the City discovered the gasoline additive MTBE in drinking water supply wells at its Charnock Wellfield, located at 11375 Westminster Avenue, Los Angeles, California.
2. As of August 1995, the City's Charnock Wellfield had five operating municipal supply wells which provided approximately 45% of the drinking water for the City's 87,000 residents (1990 U.S. Census) and approximately 200,000 daytime customers. In 1996, levels of MTBE at the City's Charnock Wellfield rose to more than 600 parts per billion

("ppb")(Well No. 19) and, by June 13, 1996, all of the supply wells at the City's Charnock Wellfield were shut down due to persistent and increasing levels of MTBE contamination. (See Draft Investigation Report, MTBE Contamination, City of Santa Monica Charnock Wellfield, Los Angeles, California prepared by Komex•H2O Science, March 21, 1997, at page 29 and Appendix C.)

3. In October 1996, following the shutdown of the City's Charnock Wellfield, the SCWC, another water purveyor utilizing the Charnock Sub-Basin, shut down its wellfield in the Sub-Basin, in order to avoid drawing the contamination toward the SCWC Wellfield. Prior to this shutdown, SCWC had two operating municipal supply groundwater wells, at 11607 and 11615 Charnock Road, Los Angeles, that provided a portion of the drinking water for approximately 10,000 residences and businesses in Culver City.

#### **B. Water Replacement Quantities and Costs**

4. As a result of the discovery of MTBE in the City's Charnock Wellfield and the shutdown of both of the wellfields in the Charnock Sub-Basin, the Impacted Parties began purchasing alternative water supplies from the Metropolitan Water District.
5. The Impacted Parties have documented the costs of water replacement. A summary of these costs is provided as Attachment C.
6. In 1995, the last full calendar year in which the City and SCWC pumped water from their Charnock Wellfields, the City extracted 6,320 acre feet and SCWC extracted 577 acre feet of water, for a total of 6,897 acre feet. See Attachment B.
7. The total extraction for 1995 is consistent with the estimates of "perennial" yield for the Charnock Sub-Basin presented in the June 1992 "Santa Monica Groundwater Management Plan, Charnock and Coastal Sub-Basin" prepared by Kennedy/Jenks, for the City of Santa Monica, the Metropolitan Water District of Southern California, Southern California Water Company, and the West Basin Municipal Water District.
8. Respondent Shell Products, along with Chevron Products Company and Exxon Corporation, have been providing water replacement costs to the City and SCWC, for a total of approximately 8,900 acre feet per year, pursuant to temporary settlement agreements. The City's agreement is scheduled to



expire by January 6, 2000. SCWC's agreement is subject to cancellation on 30 days notice. Respondents and their co-settling parties have indicated that they do not intend to renew the City's agreement prior to its expiration on January 6, 2000.

### **C. Charnock Sub-Basin Groundwater Resources**

9. The City's and the SCWC's Charnock Wellfields (hereinafter "the Charnock Wellfields") draw groundwater from wells constructed in water-bearing layers referred to as the Silverado aquifer within the Charnock Sub-Basin. In attempting to understand the source of the MTBE found at the City's Charnock Wellfield, the EPA and the California Regional Water Quality Control Board, Los Angeles Region ("the Regional Board") (collectively "the Agencies") have studied the relationship between the drinking water (Silverado) aquifer and the shallow unnamed aquifer above it and have concluded that they are hydrogeologically connected.
10. Available data indicate that multiple hydrogeologic interconnections between these aquifers have been established, including in the vicinity of the intersection of Sepulveda and Venice Boulevards, near the service station located at 3801 Sepulveda Boulevard, Culver City ("PRP Site No. 11"). This is a gasoline service station for which Respondents have responsibility.
11. When the Charnock Wellfields were in operation, water in the shallow unnamed aquifer flowed to lower levels and into the Silverado aquifer. Groundwater in the Silverado aquifer beneath Respondents' PRP Site No. 11 was hydraulically upgradient from the Charnock Wellfields under historical pumping conditions.

### **D. The Agencies' Response to the Charnock Sub-Basin MTBE Contamination**

12. EPA, in consultation with the State, determined that a joint State and federal response was necessary to effectively protect the health of persons from the threat created by MTBE contamination in the Charnock Sub-Basin and at the City's Charnock Wellfield. In April 1997, in order to pursue a coordinated effort to determine the source or sources of the MTBE at the City's wellfield, to remediate this environmental

problem, and to restore the Charnock Sub-Basin to its beneficial use as a drinking water supply, EPA and the Regional Board entered into a Memorandum of Understanding ("MOU").

13. Pursuant to the MOU, the Agencies identified thirty (30) potential source facilities ("Potential Source Sites") within an approximate one and one-quarter mile radius of the City's Charnock Wellfield. Two of the Potential Source Sites were gasoline product pipelines, and twenty-eight of the Potential Source Sites were underground storage tank systems ("USTs") where gasoline had been or was being stored. Three of the twenty-eight UST facilities and one of the pipelines are or were owned and/or operated by the Respondents. These facilities are shown on Figure 1 as PRP Site Nos. 11, 18, 40 and 46.
14. On June 19, 1997, the Agencies sent parties with responsibility for the Potential Source Sites, including Respondent Shell, letters requiring the production of information, including fieldwork results, in order to determine which of the sites had contributed MTBE affecting the Charnock Sub-Basin. (See Attachment PP.) Shell was required to provide information concerning and to conduct fieldwork at its three service station facilities. The Agencies sent a separate letter to Shell dated March 24, 1998 requiring investigation and information concerning Shell's gasoline product pipeline. (See Attachment RR.)
15. On July 30, 1998, September 30, 1998 and October 28, 1998, the Agencies sent Respondents letters providing determinations that PRP Site Nos. 40, 18 and 11 were responsible for releases of MTBE affecting the Charnock Sub-Basin and were required to participate in the Regional Response Effort to address MTBE and other gasoline constituent contamination within the Charnock Sub-Basin. The Agencies have attempted to engage Respondents in settlement negotiations, however, these efforts have not resulted in any settlement or any satisfactory offer of settlement from Respondents in the judgment of the Agencies. (See Attachment UU.)

#### **E. Description of Contaminants of Concern**

16. MTBE is a synthetic, volatile, colorless, organic ether, with a turpentine-like taste and odor. The Chemical Abstracts Service ("CAS") registry number for MTBE is 1634-04-4. There are no known naturally occurring sources of

MTBE. MTBE contains 18.2 percent oxygen by weight. MTBE was approved as a gasoline additive in 1979. In the 1980s, MTBE was used in varying amounts as an octane enhancer. Since the passage of the Clean Air Act Amendments of 1990, MTBE has been used in gasoline in increasing quantities as an oxygenate in reformulated gasoline designed to produce cleaner burning fuel. On March 25, 1999, Governor Gray Davis of California issued an Executive Order requiring that MTBE be phased out of gasoline in the State no later than December 31, 2002, based on his finding that it posed "a significant risk to the environment" and a "threat to groundwater and drinking water."

17. The fate and transport of MTBE in the subsurface is significantly different from that of the gasoline constituents that have historically been of toxicological concern, specifically the BTEX compounds (benzene, toluene, ethylbenzene, and xylene). Once released into the subsurface, MTBE separates from other gasoline constituents in the presence of moisture. MTBE has a strong affinity for water and does not readily adsorb to soil particles. Rather, MTBE moves with groundwater at approximately the rate of that water's movement. In addition, MTBE is more persistent than the BTEX compounds because it does not readily biodegrade in the subsurface. In comparison to BTEX constituents, MTBE is significantly more mobile in the subsurface and will migrate from the source area more quickly. (Cf. Attachment TT, 1992 Shell Memorandum by C.C. Stanley, et al. (internal Shell memo regarding MTBE migration from source sites).) MTBE is also more difficult and expensive to remove from water than other gasoline constituents.
18. EPA's December 1997, Drinking Water Advisory: Consumer Acceptability Advice and Health Effects Analysis on Methyl Tertiary-Butyl Ether (MTBE) ("1997 EPA Advisory") (Section 7.1) states: "the weight of evidence indicates that MTBE is an animal carcinogen, and the chemical poses a carcinogenic potential to humans (NSTC, 1997, page 4-26)." EPA has identified one of MTBE's metabolites, formaldehyde, as a probable human carcinogen (Group B1). The California Action Level for MTBE is 13 ppb. California's public health goal for MTBE in drinking water is 13 ppb. In January 1999, the State of California set a secondary maximum contaminant level ("MCL") (based on taste and odor impacts) for MTBE of 5 ppb. The State is scheduled to issue a primary (health based) MCL in 1999. No federal MCL for MTBE has yet been adopted. However, EPA's Drinking Water Advisory, issued in 1997, set a level of 20 to 40 ppb for taste and odor. MTBE has been demonstrated to cause hepatic, kidney and central nervous

system toxicity, peripheral neurotoxicity and cancer in animals.

19. When released into the environment, MTBE is a solid waste, as that term is used in RCRA Section 7003, 42 U.S.C. Section 6973. MTBE is a listed CERCLA hazardous substance (40 C.F.R. Part 302.4), based on its designation as a hazardous air pollutant under the Clean Air Act (Section 112 of the Clean Air Act, 42 U.S.C. Section 7412).
20. When released into the environment, gasoline constituents are a solid waste, as that term is used in RCRA Section 7003, 42 U.S.C. Section 6973.
21. Gasoline constituents, other than MTBE, have been found at PRP Site No. 11 and also pose a significant health threat. Specifically, benzene is a known human carcinogen (Class A) and leukemogen. Its systemic toxicity and carcinogenic effects are manifested in the liver, bone marrow, erythropoietic system and central nervous system. The federal primary MCL for benzene is 5 ppb and the State of California primary MCL for benzene is 1 ppb. Toluene and xylene are organic solvents, which are linked with toxic effects in the central nervous system, the liver, the kidney and the reproductive system. Ethylbenzene has demonstrated hepatic, kidney and central nervous system toxicity. See EPA Integrated Risk Information System (IRIS) 1999. Benzene and toluene are RCRA hazardous constituents as defined at 40 C.F.R. Part 261, Appendix VIII.
22. Other oxygenates which have been identified at PRP Site No. 11, and which also pose a public health concern, include DIPE (Diisopropyl ether, CAS number 108-20-3), and TAME (tert-amyl-methyl ether, CAS number 994-05-8).
23. Tertiary Butyl Alcohol ("TBA")(CAS-75-65-0) is a gasoline constituent, an impurity in commercial grade MTBE, and a breakdown product of MTBE, which has been found at Respondents' PRP Site No. 11. Exposure to TBA elicits both non-cancer and systemic toxic responses, as well as evidence of carcinogenicity. Recent National Toxicology Program (NTP) findings have suggested that TBA demonstrates carcinogenic activity in two rodent species [NTP Technical Report #436. 1994. NIH, U.S. DHHS]. Further, formaldehyde is an in vivo metabolic product of TBA exposure, and U.S. EPA has determined that formaldehyde is a Probable Human Carcinogen (class B1) [U.S. EPA Integrated Risk Information System, 1991]. Morphologic changes in thyroid follicular cells, in addition to renal tubular nephropathy have been observed in

experimental animals exposed to TBA [Cirvello, JD. et al. 1995. Toxicol. Indus. Health]. Reduced weight gain and increased mortality has also been observed in experimental animals exposed to high concentrations of TBA in their drinking water. California's Office of Environmental Health Hazard Assessment has conducted an interim assessment based on preliminary calculations of the carcinogenicity of TBA, concluding that exposures to TBA via the oral route represent a one in a million excess cancer risk at 12 ppb. Based on this assessment, California has set an Action Level for TBA of 12 ppb. (See Attachment H.)

24. Potential exposure pathways for Charnock Sub-Basin groundwater containing MTBE and other gasoline constituent contamination are as follows: ingestion or inhalation of, or direct contact with, groundwater containing dissolved contaminants.
25. EPA has determined that the release, threat of release and presence of MTBE and other gasoline constituents in the Charnock Sub-Basin may present an imminent and substantial endangerment to the health of persons and the environment as those terms are used in RCRA Section 7003, 42 U.S.C. Section 6973.

#### **F. RESPONDENTS' STATUS**

26. Respondent Shell is a corporation, incorporated in the State of Delaware. Its principal place of business is One Shell Plaza, 910 Louisiana, Houston, Texas 77002. Respondent Shell is a "person" as that term is defined in Section 1004(15) of RCRA, 42 U.S.C. Section 6903(15) and 40 C.F.R. Section 260.10. (See Attachment D.)
27. Respondent Shell Products is a corporation, incorporated in the State of Delaware, whose principal place of business is One Shell Plaza, 910 Louisiana, Houston, TX 77002. Respondent Shell Products is a "person" as that term is defined in Section 1004(15) of RCRA, 42 U.S.C. Section 6903(15) and 40 C.F.R. Section 260. (See Attachment D.)
28. Respondent Equilon is a Delaware limited liability company formed as a joint venture on January 1, 1998. Equilon is owned 56 percent by Shell Oil Company and 44 percent by Texaco Inc. Its principal place of business is 1100 Louisiana, Houston, Texas 77002. Respondent Equilon is a

"person" as that term is defined in Section 1004(15) of RCRA, 42 U.S.C. Section 6903(15) and 40 C.F.R. Section 260.10. (See Attachments D and E.)

#### **G. Respondents' Leasehold and Activities**

29. Respondent Shell leased the property at 3801 Sepulveda Blvd. at the intersection of Venice Blvd., Culver City, on January 25, 1979 from (1) Paul D. Myers, Trustee, EBM-RT Trust; and (2) Yvonne Sammann Berry, Trustee, MEBS-RT Trust, in order to operate a gasoline service station. This lease has subsequently been amended and renewed. (See Attachment I.)
30. On August 1, 1982, Respondent Shell in turn leased the premises at 3801 Sepulveda Boulevard to Charles Abrams ("sublessee"). (See Attachment J.) This sublease gave Shell the right to make alterations of the premises and prohibited Mr. Abrams from making any alterations of the premises without Shell's prior written consent. It further stated that any alteration of the premises by Mr. Abrams would, at Shell's election, become a part of the premises and the property of Shell. On March 7, 1984, March 16, 1987, and August 1, 1990, Shell renewed its lease with Charles Abrams for the property at 3801 Sepulveda, Los Angeles. Beginning with the March 16, 1987 renewal, Shell required its sublessee to "maintain methodical daily inventory control" and also required that the lessee provide "immediate telephone notification" to Shell when the inventory showed "any suspected product loss." Specifically, Shell required its sublessee to provide immediate telephonic notification when there were discrepancies "for a single product in excess of (a) 300 gallons for a single day [or] (b) 150 gallons per day for three consecutive day (all loss or gains)." (See Attachment K, 1987 Motor Fuel Station Lease at paragraph 6.3.) Also beginning with the 1987 renewal, Shell required that the "lessee shall not make any alterations of the Premises, including disablement of leak detectors or other environmental control device." (See Attachment K, 1987 Motor Fuel Station Lease at paragraph 5.5.)
31. On March 29, 1995, Respondent Shell consented to reassignment of the sublease for the facility located at 3801 Sepulveda Blvd. (PRP Site 11) at the intersection of Venice Blvd., Culver City to Abrams & Blanco, Inc. (See Attachment L.)
32. On August 1, 1995, a new sublease of the premises at 3801 Sepulveda Boulevard, Culver City, was executed between Shell

and Abrams & Blanco, Inc. (See Attachment L.)

33. Respondent Shell was both the lessee of the real property and the owner of improvements and equipment at PRP Site No. 11. During the period 1996-97, Respondent Shell Products operated PRP Sites Nos. 11, 18 and 40. As of January 1998, Respondent Shell transferred its interests in these facilities to Respondent Equilon. (See Attachments D, E, G, M, N, QQ and SS.)

#### **H. Releases of MTBE and Other Gasoline Constituents From Respondents' Leasehold Property**

34. Shell Products has stated that "SU2000E Gasoline, introduced in the first quarter of 1990, was the first Shell gasoline manufactured or sold in California that contained MTBE." (See Attachment G.) By April 10, 1990, Super Unleaded Gasoline (identified as SU2000E) containing MTBE at 5% to 11% was being delivered to Shell Stations in the Los Angeles area. (See Attachment F.)
35. In 1988, prior to the introduction of Shell's SU2000E gasoline, testing at PRP Site No. 11, including the drilling of six soil borings, showed gasoline contamination in only one sample taken at five feet below ground surface; however, detection limits were three orders of magnitude higher than those currently required by the Agencies. (See Attachments P and O.)
36. In May of 1990, the tanks at PRP Site No. 11 passed a tank tightness test. The test was conducted on May 26, 1990, by Precision Tank Testing, Inc. using the Horner "Easy-Chek" system. Precision Tank Testing stated that its "Easy-Chek" system was able to detect leaks at rates as low as 0.5 gallons per hour. (See Attachment R.)
37. From May 2, 1991 through March 6, 1992, employees working at PRP Site No. 11 recorded "inventory variations" at the super unleaded (SU2000E) gasoline tank [identified as on these inventory report forms as Tank No. 3]. The quantification of these "variations" showed losses of fuel of up to more than 400 gallons in a single day. The reports submitted to the Los Angeles County Department of Public Works ("LADPW") indicated that the submitter certified under penalty of perjury that these inventory "variations" were "Not due to an unauthorized (leak) release." The records of inventory discrepancies met Shell's numerical criteria for

"immediate telephonic notification" on December 21, 1991.  
(See Attachments K and U.)

38. On July 9, 1991, LADPW sent Shell a "Notice of Non-Compliance" with Leak Detection Program requirements. (See Attachment V, and Attachments O, Q and S.)
39. On July 22, 1991, a representative of the LADPW conducted a site investigation at PRP Site No. 11 and reported that an underground storage tank unauthorized release had occurred. He noted that the date on which the discharge had begun and the cause of the discharge were unknown, and that the discharge had stopped. He also recorded that a preliminary site assessment was underway. The Agencies have not identified any additional details concerning this release. (See Attachment W.)
40. In a letter dated September 26, 1991, the LADPW required Shell to perform Tank Integrity testing on all tanks at PRP Site No. 11 and to submit the results to LADPW by October 31, 1991. (See Attachment X.)
41. On October 20 and 24, 1991, Shell's contractor, Milligan Testing & Service, Inc., performed leak detection tests on the tanks and lines at PRP Site No. 11. The SU2000E tank top (vent/vapor recovery line) showed evidence of a leak. All other tanks and lines tested tight. (See Attachments Y and CC.)
42. In a letter dated November 18, 1991, from Bill's Service Station Maintenance, Inc. to Shell Oil Company, Shell's contractor stated: "Broke out area over SU [Super Unleaded] tank. Dug to tank top. . . . Found one leaking fitting, tightened up fitting. All tested OK." (See Attachment Y.)
43. In a letter dated November 19, 1991, Service Station Services reported to the LADPW the results of testing at PRP Site No. 11. The letter states: "the test indicated a failure to the Super Unleaded product vent/vapor recovery line." The letter also indicated that repairs had been made. (See Attachment Y.)
44. On March 9, 1992, Milligan Testing & Service, Inc. sent a letter to Shell and stated that Tank No. 1, the SU (Product SU-2000E) tank had failed a tank integrity test which began on March 6, 1992. (See Attachment Z.) Shell Products "Summary of Tank Integrity Testing," provided in response to the Agencies' June 19, 1997 information request item No. 16, omitted any mention of either the March 6, 1992 SU2000E tank



integrity test failure, or the October 24, 1991 helium detection related to the SU2000E tank. (See Attachment QQ.)

45. On March 16, 1992, Carey Wehrli of Shell Oil Company reported that an unauthorized release of Super Unleaded Gasoline was discovered at PRP Site No. 11 on March 7, 1992 during a tank test. Ms. Wehrli filed an "Underground Storage Tank Unauthorized Release (Leak)/ Contamination Site Report" with the LADPW. The report stated that the date when the discharge began was unknown. The report stated that the fiberglass tank had a capacity of 12,000 gallons and was 10 years old at the time of the leak discovery. It also indicated that the contents of the tank had been removed on March 7, 1992. The cause of the release was reported as unknown. A remedial action method was not specified. In the report, Shell is identified as the responsible party and Charles Abrams is identified as the facility operator. (See Attachment AA.)
46. On March 17, 1992, Shell's contractor, George Crosby and Bruce Karas of O/C Tanks, wrote a letter seeking a permit to enter the Super Unleaded Tank (SU2000E) at PRP Site No. 11 to conduct any repairs needed to restore this facility to operation. The letter noted that the tank was installed in 1982, and that O/C Tanks was first contacted in February 1992 regarding a problem with the tank. (See Attachment BB.)
47. On March 26, 1992, Respondent Shell Oil Company applied for temporary closure of Tank number 3 (the Super Unleaded Tank) at Shell Facility 11. However, this permit was never issued because Shell determined that the tanks at the facility should be replaced. (See Attachment DD.)
48. In June 1992, four 12,000-gallon single-walled fiberglass USTs were removed from PRP Site No. 11. In a report dated June 19, 1992, LADPW inspector I. Azie noted, "Tanks 1, 3, and 4 were structurally sound, Tank #2 has a rot on bottom (about 6 inch diameter, located about 3 feet from southern end of tank and a crack around the middle of tank . . .)." In Mr. Azie's report, the Super Unleaded tank is designated as Tank 2. (See Attachment EE.)
49. In a letter dated August 19, 1992 "Tank Removal Report Recommendations," to Shell from its contractor, Fugro-McClelland regarding PRP Site No. 11, the contractor stated "Tank 2 (Plate 1) had a crack in one of the ribs encircling the tank. . . . Below the port used to gauge the tank, there was a crack, probably from the gauging process. The fiberglass was slightly pushed out. The gauging stick did not

actually puncture the tank completely. Fiberglass surrounding this cracked area was discolored (dark colored), as was the pea gravel backfill below this point on the tank." (See Attachment GG.)

50. In June 1992, five new 12,000-gallon double-walled fiberglass gasoline USTs were installed at PRP Site No. 11. The dispensers were also replaced. Vapor extraction piping was installed in the areas that had been excavated for tank removal and tank installation. Hydrocarbon-impacted soil was placed within the former diesel-fuel tank excavation for later vapor extraction. (See Attachment FF and GG.)
51. In 1993, Carey Wehrli, Environmental Analyst for Respondent Shell, L.A. West Retail District Office, Woodland Hills, California, sent a facsimile to Mike Claudio, Environmental Engineer, related to the Shell's PRP Site No. 11. This facsimile contained a handwritten "sequence of events" for the station, and stated that the SU2000E tank "fails" during tank testing on March 7, that 36 gallons were lost during the test and "CHECK OF DEALERS BOOKS SHOW 9,000 GAL LOST SINCE DEC." (See Attachment HH.) (Re: Wehrli title, see Nov. 19, 1991 Letter from Larry Gordon, Attachment Y.) (Re: Claudio title, see Nov. 28, 1994 Fugro-West SVE Pilot Test Interpretation Report, Attachment LL.)
52. In August, 1993, groundwater monitoring well gauging and groundwater sampling and analysis at three wells at PRP Site No. 11 detected separate-phase hydrocarbons immediately above the groundwater and dissolved phase hydrocarbons in the groundwater. Fuel hydrocarbons were detected in soil from approximately 25 feet bgs to groundwater. Total petroleum hydrocarbon concentrations in soil were as high as 20,676,000 ppb (north end of the western-most dispenser island). In September 1993, a thickness of separate-phase hydrocarbons 2.74 feet in depth was detected in one groundwater monitoring well. (Well MW-2, See Attachment JJ, Fugro, Nov. 1993 at page 10).
53. No separate analyses of MTBE were reported during 1993; however, chromatographs obtained by Shell Products in 1997, in order to comply with the Agencies' information request, indicate that MTBE was present in groundwater at PRP Site No. 11 in August 1993. The estimated concentration of MTBE in these chromatographs was as high as 643,000 ppb, in Boring 1 (MW-1) at 40 feet below ground surface in the area of the former SU2000E tank. (See Attachment II, Chromatographs and Vicinity Map.)

54. As explained in greater detail below, subsequent investigations determined that, in addition to other pathways, the groundwater wells installed at PRP Site No. 11 in August 1993 created a conduit between the shallow unnamed aquifer and the drinking water (Silverado) aquifer in the same area in which floating product was found. (See Attachment SS, at Tables 2 and 7.)
55. In September 1993, Shell's contractor began hand bailing of separate-phase hydrocarbon found in groundwater monitoring wells at PRP Site No. 11. (See Attachment JJ.)
56. In April 1994, seven additional borings were drilled and sampled including four on the adjacent property to the southwest, in the direction of shallow groundwater flow. Hydrocarbons were detected throughout the soil and down to groundwater. The highest concentrations of soil contamination were found at depths of approximately 100 feet, with concentrations as high as 10,169,000 ppb (Well VE-8). Dissolved hydrocarbons were detected in groundwater from the remaining wells (except for well VE-8, which was not sampled due to an obstruction). (See Attachment SS at pages 10-11.) Separate phase hydrocarbon was found in wells MW-2 (8.01 feet) and MW-5/VE-7 (3.73 feet). (See Attachment KK, Fugro, August 1994, at page 5, Attachment SS at pages 10-11, and Attachment QQ.)
57. Separate-phase hydrocarbon was found in five of the monitoring wells at PRP Site No. 11 from September 1993 through October 1996. (Wells MW-1/ VE-1, MW-2/VE-2, MW-4/VE-6, MW-5/VE-7 and VE-5.) In August 1995, Respondent's contractor placed absorbent wicks in wells with separate-phase hydrocarbon. In May 1996, 10.05 feet of separate phase hydrocarbon was found in MW-4. An automated separate-phase hydrocarbon recovery system, installed in Wells MW-4/VE-6 and MW-5/VE-7, began operation in May 1996. Respondent's contractor installed passive skimmers in two wells (Wells MW-2 and VE-5) in September 1996. Shell Products' contractor estimated that approximately 1,370 gallons of separate phase hydrocarbon were removed through October 1996. (See Attachment SS at page 11, Attachment QQ, Summary of Site Investigations and Activities, and Attachments MM and NN.)
58. In October 1994, Shell's contractor, Fugro, began soil vapor extraction testing at PRP Site No. 11. A series of tests indicated that SVE was feasible for remediating petroleum hydrocarbons from within sandy soils at the site. (See Attachment LL and QQ.) SVE operations began in August

1995. In May 1997 an automated product recovery system was installed. Through August 1997, Respondent's contractor estimated that 14,365 gallons of gasoline-equivalent fuel hydrocarbons had been removed by SVE activities conducted at the facility. (See Attachment SS at page 11.)

59. Despite Shell's knowledge of the threat posed by MTBE contamination to drinking water supply wells (see Attachment TT), Shell did not seek analyses of MTBE concentrations in soil or groundwater at PRP Site No. 11 until March 1997, five years after the failure of its SU2000E tank and six months after being notified of the shutdown of the Charnock Wellfields due to MTBE contamination. Shell Products detected MTBE contamination in soil samples taken near the former and current underground storage tanks (B-7) at concentrations up to 7,300 ppb (March 19, 1997) at 31 feet bgs by EPA Methods 8020A/8015M. (See Attachment SS at Table 10, page 1 of 11.)
60. Respondents have found MTBE in the shallow unnamed aquifer groundwater in four wells located at PRP Site No. 11 (VE-9, MW-7s, MW-12s, MW-13s). Using EPA method 8260, MTBE has been found at levels as high as 1,200 ppb in MW-7s (April 1997), 320 ppb in well VE-9 (April 1999), 160 ppb in well MW-12s (April 1999) and 780 ppb in well MW-13s (October 1997). (See 1999 Quarterly Groundwater Monitoring Report, Second Quarter 1999, Wayne Perry, Inc.)
61. TBA has been detected at 17,000 ppb in groundwater, in the shallow unnamed aquifer within 10 feet of PRP Site No. 11's property line. (See Quarterly Groundwater Monitoring Report, Second Quarter 1999, Wayne Perry, Inc.)

#### **I. Migration of Releases from Respondents' Leasehold Property**

62. The dip of the subsurface formations in the vicinity of PRP Site No. 11, along with groundwater potentiometric surface measurements, indicate that the shallow groundwater at PRP Site No. 11 generally flowed towards the westerly/southwesterly direction during Charnock Wellfields operation. (See Attachment QQ and Attachment SS at page 43.)
63. At six wells located from three to 400 feet downgradient from PRP Site No. 11, MTBE has been identified in the shallow unnamed aquifer by EPA Method 8260A at concentrations as high as: 8,200 ppb in well MW-11S (July 1998); 5,900 ppb in MW-8s (July 1997); 230,000 ppb in well MW-15s (June 1997); 13,000 ppb in well MW-14S (July 1998); 45,000 ppb in well MW-18s

(April 1998); and 28,000 ppb in well MW-17s (April 1999).  
(See Quarterly Groundwater Monitoring Report, Second Quarter 1999, Wayne Perry, Inc.)

64. MTBE has also been detected in three well clusters installed in the drinking water aquifer between PRP Site No. 11 and the Charnock Wellfields. Specifically, moving from well clusters closest to PRP Site No. 11 and toward the Charnock Wellfields, MTBE has been detected in Upper Silverado wells at concentrations up to:

- 1) 69 ppb (2/11/98) RMW6, Tuller Avenue North Regional Well Cluster;
- 2) 470 ppb (11/20/97) RMW11, Globe Avenue Well Cluster;
- 3) 17,000 ppb (7/30/98) RMW14, intersection of Sawtelle and Tabor;
- 4) 38 ppb (4/28/99) RMW13, intersection of Sawtelle and Tabor.

(See Charnock Wellfield Regional Assessment, Archive 67, Preliminary Charnock Electronic Data Submittal, Version 07/15/99, Geomatrix Consultants, Inc.)

65. MTBE has been detected in the City's Charnock Wellfield at up to 610 ppb. (See Draft Investigation Report, MTBE Contamination, City of Santa Monica Charnock Wellfield, Los Angeles, California, prepared by Komex•H2O Science, March 21, 1997, at Page 29 and Appendix C.)

**J. Hydrogeologic Connection between the Shallow Unnamed (Upper) Aquifer and the Drinking Water (Silverado) Aquifer**

66. Geologic investigations within the Charnock Sub-Basin show that fine grained soils (such as clays and silts) between the Silverado aquifer and shallow unnamed aquifer are thin and laterally discontinuous, including in the vicinity of PRP Site No. 11. This indicates that there are areas where these soils do not effectively restrict the movement of water or of contaminants vertically between the shallow unnamed aquifer and Silverado aquifer in the vicinity of PRP Site No. 11. See Wayne Perry Inc., June 15, 1998, "Site Assessment Report, Shell Oil Products Company Station, 3801 Sepulveda Boulevard (at Venice Boulevard), Culver City, California," Figure 8 (cross-section C-C') and Appendix D Log for Well MW-19s, page 18 of 18.)

67. The connection between the Silverado aquifer and the shallow unnamed aquifer is shown by the behavior of water levels in both of these saturated zones since groundwater extractions ceased at the City's wellfield in June 1996.

Since that time, groundwater elevations in the Silverado aquifer began to rise. Saturation of the Silverado aquifer has reduced the downward migration of water from the shallow unnamed aquifer and, as a result, the groundwater elevations in the shallow unnamed aquifer in the Charnock Sub-Basin have also risen. Groundwater elevations in the shallow unnamed aquifer beneath PRP Site No. 11 have increased approximately 20 feet since pumping ceased at the Charnock Wellfields, indicating a hydraulic connection between the Silverado aquifer and the shallow unnamed aquifer. (See Attachment SS at page 43.)

68. Well construction information for wells installed at PRP Site No. 11 indicate that four of these wells created additional pathways for contamination to move from the shallow unnamed aquifer to the drinking water (Silverado) aquifer. Specifically, the two borings installed in August 1993 (wells MW-1 and MW-2) and two of the wells installed in 1994 (Wells MW-4 and MW-5) were drilled through the aquitard or barrier between the aquifers. The screening of these wells across the aquitard created additional pathways for downward migration of contaminants. Wells that create this type of interconnection between shallow and deeper aquifers are improperly constructed and are referred to as "cross-screened." (See Wayne Perry, Inc., June 15, 1998, "Site Assessment Report, Shell Oil Products Company Station, 3801 Sepulveda Boulevard (at Venice Boulevard), Culver City, California," Figures 14 (Structural Contour Map, Top of Shallow Aquitard) and 15 (Isopach Map of Shallow Aquitard), and Appendix B pages 1 and 2, Appendix F Geophysical Logs MW-1, MW-2, MW-4, MW-5. See also Attachment SS at Tables 2 and 7.)
69. In June and July 1997, Shell Products' contractors sealed wells MW-1, MW-2, MW-3, MW-4 and MW-5. Three of these five wells were replaced with new wells that were constructed so that their screens no longer created a pathway for contaminant migration to the drinking water aquifer. (See Attachment SS, Wayne Perry, Inc., July 15, 1998, "Site Assessment Report, Shell Oil Products Company Station, 3801 Sepulveda Boulevard (at Venice Boulevard), Culver City, California," Figure 8 (cross section C-C') and Appendix D Log for Well MW-19S page 18 of 18.)
70. Additional evidence of the interconnection between the shallow unnamed aquifer and the upper Silverado aquifer has been provided by records of the similar rates of water level rise in the two aquifers following cessation of groundwater extraction at the Charnock Wellfields. (See Wayne Perry,

Aquifer Testing Report, Graphs 1-3.)

71. The interconnection between the shallow unnamed aquifer and the Silverado aquifer is further addressed in the work of the City's consultant, Kennedy/Jenks. This consultant included drainage into the subsurface as a significant source of recharge for the Silverado (drinking water) aquifer. (See Kennedy/Jenks Consultants, 1992, "Santa Monica Groundwater Management Plan, Charnock and Coastal Sub-Basins, June 1992, Final Report," Chapter 4 (Groundwater Budget Estimation), page 4-1.)
72. Similarly, Geomatrix Consultants (Geomatrix), working on behalf of Shell Products, Chevron Products Company, and Exxon Company, U.S.A., included, as recharge to the Silverado aquifer, water entering the subsurface within the area of the Charnock Sub-basin. (See Geomatrix Consultants, 1997, "Conceptual Hydrogeologic Model, Charnock Wellfield Regional Assessment, Los Angeles, California," December 18, 1997, page 6-1 and Table 6-4.)
73. Geomatrix also performed detailed geologic and statistical analyses of available lithologic boring logs within and near the Charnock sub-basin and determined that the aquitard between the shallow unnamed aquifer and the drinking water (Silverado) aquifer was laterally discontinuous. (Geomatrix Consultants, 1998, "Model Layer Revisions," memo to Mr. Steven Linder, USEPA, and Mr. David Bacharowski, RWQCB, July 23, 1998.)

**K. Movement of Contaminants from PRP Site No. 11 toward the City of Santa Monica's Charnock Wellfield**

74. More than five years elapsed from the first indication of a release of MTBE gasoline at PRP Site No. 11 until the shutdown of the Charnock Wellfields.
75. During these five years, operation of the City's Charnock Wellfield and the SCWC Wellfield, at an average combined extraction rate of over 6,000 acre feet per year, induced a gradient in the Silverado (drinking water) aquifer, drawing groundwater from the vicinity of PRP Site No. 11 towards the City's Charnock Wellfield. Evidence of the ability of the Charnock Wellfield to induce this gradient in the Charnock Sub-Basin is found in water level measurements taken during wellfield operations. (See Kennedy/Jenks, "Final Report, Santa Monica Groundwater Management Plan, Charnock and

Coastal Sub-Basins," June 1992, Figure 6.3 and Figure 6.7.)

76. Based on evidence from boring logs, the shallow unnamed aquifer and the Silverado (drinking water) aquifer between PRP Site No. 11 and the Charnock Wellfields contain heterogeneous sediments, with varying zones of coarse grained sediments and finer grained sediments. The zones of coarse grained sediments provide relatively more permeable (transmissive) pathways for movement of water and dissolved phase contaminants. Evidence of the existence of these more transmissive zones was demonstrated during aquifer testing and electromagnetic borehole flowmeter testing at the City's Charnock Wellfield conducted during February, March and April 1998. (See Geomatrix Consultants, "Aquifer Characterization Report," July 1999.)
77. The induced gradient created by extraction at the Charnock Wellfield has provided the driving force and the permeable soil layers and cross-screened wells present in the shallow unnamed and Silverado (drinking water) aquifers have provided the pathways for migration of contaminated groundwater from PRP Site No. 11 towards the Charnock Wellfields.
78. The Agencies have considered the August 9, 1999 report by Respondent Shell's contractor, Daniel B. Stephens and Associates, Inc. This report asserts, inter alia, that PRP Site No. 11's contamination has moved only 800 to 1500 feet (see pg. 4-71) of the approximately 2750 feet from Site No. 11 to the City's Charnock Wellfield. The Agencies have concluded that the report contains significant errors. For instance, Shell's contractor used an equation for determining **average** groundwater velocities, rather than an equation appropriate for determining the location of the **leading edge** of a contaminant plume in the Charnock Sub-Basin. By using an equation to determine average groundwater velocity, Shell's contractor failed to consider the impacts of dispersion and of strata with higher than average permeability on contaminant migration patterns and velocities. Hydrogeologic data collected in the Silverado Aquifer between PRP Site No. 11 and the City of Santa Monica Charnock Wellfield show significant variations in hydrogeologic conditions, leading to variations in flow velocities within the aquifer. Where these varying groundwater conditions are present, the fastest rates of movement of contaminants may be several times the average rate. As a result, the leading edge of contamination would have traveled significantly farther than the averages calculated by Shell's contractor. See July 1999 Aquifer



Characterization Report prepared by Geomatrix Consultants (see pp. 11 and 35). See also, Freeze and Cherry, Groundwater, Chapter 9, Page 398; United States Geological Survey Publication, Water Supply Paper 2220 - Basic Ground-Water Hydrology pg. 25; Groundwater, Vol. 37, No.4, pg.483.

79. Releases from PRP Site No. 11 of MTBE and other gasoline constituent contamination have resulted in substantial adverse impacts to water quality in the capture zone of the Charnock Wellfields.

#### **IV. CONCLUSIONS OF LAW AND DETERMINATION**

Based on the Findings of Fact set forth above, EPA has concluded and determined that:

1. Respondents Shell, Shell Products and Equilon are "persons" as defined in Section 1004(15) of RCRA, 42 U.S.C. Section 6903(15) and 40 C.F.R. Section 260.10, whose past or present handling, storage, treatment, transportation or disposal of "solid wastes" as defined by Section 1004(27) of RCRA, 42 U.S.C. Section 6903(27), have contributed to a condition which may present an imminent and substantial endangerment to health or the environment under Section 7003 of RCRA, 42 U.S.C. Section 6973.
2. Respondents, and each of them, are or were an owner and/or operator of a facility where past or present handling, storage, treatment, transportation or disposal of a solid waste resulted in discharges of MTBE and other gasoline constituents. These discharges or releases have contributed to contamination that may present an imminent and substantial endangerment to health or the environment, within the meaning of Section 7003 of RCRA, 42 U.S.C. Section 6973.
3. MTBE and other gasoline constituents released from the PRP Site No. 11, 3801 Sepulveda Boulevard, Culver City, California, are "solid wastes" as defined by Section 1004(27) of RCRA, 42 U.S.C. Section 6903(27). These releases may present an imminent and substantial endangerment to health or the environment under Section 7003 of RCRA, 42 U.S.C. Section 6973.
4. The provision of water replacement is necessary to mitigate the imminent and substantial endangerment posed by the MTBE

and other gasoline constituent contamination of the Charnock Sub-Basin.

5. Issuance of this Order is necessary to insure the continued provision of clean drinking water to the customers of the Impacted Parties after the expiration of the City's Agreement with Shell Products and other parties on January 6, 2000.
6. Respondents are jointly and severally liable under Section 7003 of RCRA, 42 U.S.C. Section 6973, for providing water replacement.
7. Based on the foregoing FINDINGS OF FACT AND CONCLUSIONS OF LAW, and on the Administrative Record, the Director of the Waste Management Division of EPA, Region IX, has determined that issuance of this Order is necessary to protect public health and the environment.

#### **ORDER**

Based on the foregoing FINDINGS OF FACT AND CONCLUSIONS OF LAW, the Administrative Record, and the foregoing determination, it is hereby ORDERED that:

1. Respondents shall fully cooperate with EPA and its authorized representatives in carrying out the provisions of this Order, including the taking of all actions set forth below within the time periods and in the manner prescribed in the attached Scope of Work (SOW), provided as Attachment A.
2. Effective immediately upon receipt of this Order, Respondents, and each of them, shall take no action in the Charnock Sub-Basin Investigation Area in connection with the MTBE and other gasoline constituent contamination other than those actions required or permitted by EPA and/or the Agencies.
3. Nothing in this Order is intended to affect any obligation imposed on any Respondent as a result of any agreement between it and the Impacted Parties.

#### **V. DEFINITIONS**

Unless otherwise expressly provided herein, terms used in this Order which are defined in RCRA shall have the meanings assigned to them in that Act. Whenever the terms listed below are used in this Order, the following definitions apply:

1. "Agencies" shall mean either the United States Environmental Protection Agency, or the California Regional Water Quality Control Board, Los Angeles Region, and the United States Environmental Protection Agency, acting jointly.
2. "Charnock Sub-Basin" shall mean the area of Los Angeles and Culver City bounded by the Overland Fault to the east, the Ballona escarpment to the south, the Charnock Fault to the west, and the base of the Santa Monica Mountains to the north.
3. "Charnock Sub-Basin Investigation Area" shall mean the approximately one and one-quarter mile radius area investigated by the Agencies in order to locate potential sources of the MTBE contamination at the City of Santa Monica's Charnock Wellfield.
4. "Charnock Wellfields" shall mean the drinking water supply wells operated by the City of Santa Monica at 11375 Westminster Avenue, Los Angeles, and the drinking water wells operated by the Southern California Water Company at 11607 and 11615 Charnock Road, Los Angeles.
5. "City" shall mean the City of Santa Monica, an Impacted Party.
6. "Days" shall mean calendar days, unless otherwise specified.
7. "EPA" shall mean the United States Environmental Protection Agency.
8. "Groundwater" shall mean the subsurface water that fills available openings in rock and/or soil materials such that they may be considered saturated.
9. "Impacted Parties" shall mean the City of Santa Monica and the Southern California Water Company.
10. "MCL" shall mean a federal or State promulgated standard for the Maximum Contaminant Level of a particular chemical when present in water to be served for domestic use by a public water system.
11. "Methyl Tertiary-Butyl Ether" or "MTBE" shall mean the

chemical whose CAS registry number is 1634-04-4.

12. "Potential Source Sites" shall mean the underground gasoline storage tank systems and gasoline product pipelines within the Charnock Sub-Basin Investigation Area, identified on Figure 1.
13. "Ppb" shall mean parts per billion. Note that in some instances when this unit of measurement has been used for soil samples it represents a conversion from the original units in which the analyses of the chemical contents at issue were presented as either milligrams or micrograms per kilogram. Further, in some instances when this unit of measurement has been used for groundwater samples it represents a conversion from the original units in which the analyses of the chemical contents at issue were presented as either milligrams or micrograms per liter.
14. "PRP Site No. 11" shall mean the property located at 3801 Sepulveda Blvd. at the intersection of Venice Blvd., Culver City, California.
15. "RCRA" shall mean the Resource Conservation and Recovery Act (also referred to as the Solid Waste Disposal Act), as amended, 42 U.S.C. Sections 6901, et seq.
16. "Regional Board" shall mean the California Regional Water Quality Control Board, Los Angeles Region.
17. "Release(s)" shall mean discharge(s) or disposal as those terms are used in RCRA.
18. "Remedial Action" shall mean activities required by EPA and/or the Agencies to control or eliminate releases of MTBE and/or other gasoline constituent contamination from the Site.
19. "Scope of Work" shall mean the document provided as Attachment A to this Order and incorporated herein by this reference. The Scope of Work will also be referred to as the "SOW."
20. "SCWC" shall mean the Southern California Water Company, an Impacted Party.
21. "Tertiary-Butyl Alcohol" or "TBA" shall mean the chemical whose CAS registry number is 75-65-0.
22. "USTs" shall mean underground storage tank systems,

including the underground storage tanks and associated piping and equipment formerly located at Respondents' PRP Site No. 11, 3801 Sepulveda Boulevard, Culver City, California.

23. "Work" shall mean those requirements set forth in Section VI of this Order (Work to be Performed) and the attached Scope of Work (SOW).

#### **VI. WORK TO BE PERFORMED**

1. Respondents are ordered to perform all activities required by the SOW, provided as Attachment A, and by this Order. Respondents shall make submittals and certifications as set forth below and within the time schedules specified in the SOW. All days specified below and in the SOW are consecutive calendar days from the Effective Date of this Order, unless otherwise specified. Due dates falling on a Saturday, Sunday, or federal holiday will be automatically extended to the next business day.
2. Commencing on the January 7, 2000, quarterly progress reports ("Progress Reports") shall be submitted in accordance with the SOW.
3. Respondents shall jointly submit workplans as provided in the SOW.
4. Respondents shall continue to perform all tasks required by the Agencies' letters to Respondents, including the Agencies' letters dated July 30, 1998, September 30, 1998 and October 28, 1998, provided as Attachment UU, as amended by subsequent Agencies' correspondence and by the SOW.

#### **VII. NOTICES AND SUBMISSIONS**

1. Whenever, under the terms of this Order, written notice is required to be given, or any document is required to be sent by one Party to another, it shall be provided as directed in this section. When Respondents are required to provide notice or submittals to EPA, they shall also provide a copy of the notice or submittal, in the same quantity and in the same manner as required for EPA, to the Regional Board's and the Impacted Parties' representatives as listed below, except when different quantities or manner of notice are provided elsewhere in this Order or the SOW. Notice shall

be provided to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other parties in writing. All notices and submissions shall be sent by either certified mail, return receipt requested, overnight mail or facsimile, and notice shall be effective upon receipt, unless otherwise provided herein.

2. With respect to any and all submissions to the Agencies required by this Order, including those required pursuant to the SOW, Respondents shall provide two hard copies and one electronic copy of each document to each of the following Project Coordinators at the addresses specified below (a total of 3 hard copies to EPA), unless those Project Coordinators or their successors give notice of a change to the Respondents in writing.

#### **Project Coordinators for Agencies and Impacted Parties**

##### **As to EPA:**

(2 Copies)

Steven Linder, Project Coordinator  
Greg Lovato, Alternate Project Coordinator  
Office of Underground Storage Tanks (WST-8)  
Waste Management Division  
U.S. Environmental Protection Agency - Region IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901  
Telephone: (415) 744-2036(Steven Linder)  
Telephone: (415) 744-2112(Greg Lovato)  
Facsimile: (415) 744-1026(Steven Linder)  
Facsimile: (415) 744-2054(Greg Lovato)  
E-Mail: [linder.steven@epa.gov](mailto:linder.steven@epa.gov), [lovato.greg@epa.gov](mailto:lovato.greg@epa.gov)

##### **As to EPA Continued:**

(1 Copy Only)

Walter Crone  
Ninyo & Moore  
9272 Jeronimo Road, Suite 123 A  
Irvine, CA 92618-1914  
E-Mail: [wcrone@ninyoandmoore.com](mailto:wcrone@ninyoandmoore.com)

##### **As to the Regional Board:**

David Bacharowski  
Los Angeles Regional Water Quality Control Board  
320 West 4<sup>th</sup> Street, Suite 200

Los Angeles, CA 90013  
Telephone: (213) 576-6620  
Facsimile: (213) 576-6700  
E-Mail: [DBACHARO@rb4.swrcb.ca.gov](mailto:DBACHARO@rb4.swrcb.ca.gov)

**As to the City of Santa Monica:**

Gil Borboa  
City of Santa Monica  
1212 Fifth St. 3<sup>rd</sup> Floor  
Santa Monica, CA 90401  
Telephone: (310) 458-8230  
Facsimile: (310) 393-6697  
E-mail: [gil-borboa@ci.santa-monica.ca.us](mailto:gil-borboa@ci.santa-monica.ca.us)

**As to the Southern California Water Company:**

Denise Kruger  
Southern California Water Company  
630 E. Foothill Blvd.  
San Dimas, CA 91773  
Telephone: (909) 394-3600  
Facsimile: (909) 394-0827  
E-mail: [dlkruger@scwater.com](mailto:dlkruger@scwater.com)

Whenever, under the terms of this Order, EPA provides notice to Respondents, EPA will direct this notice to the following persons and addresses, unless Respondents provide notice of a different person and/or address:

**As to Respondents Shell, Shell Products and Equilon:**

Chuck Paine  
Shell Oil Company  
4482 Barranca Parkway  
Suite 180-171  
Irvine, CA 92604  
Telephone: (949) 654-1275  
Fax: (949) 654-1303  
E-mail: [cbpaineiii@shellus.com](mailto:cbpaineiii@shellus.com)

**Additional contact as to Respondent Equilon:**

H. Brad Boschetto  
Equiva Services, LLC  
Carson Plant  
20945 S. Wilmington Ave.

Carson, CA 90810-1039  
Phone: (310) 816-2074  
Fax: (310) 816-2356  
E-mail: [hbboschetto@equiva.com](mailto:hbboschetto@equiva.com)

Respondents may designate successor representatives, either individually or jointly.

3. With respect to all submissions and notices, including but not limited to notice of a change of Project Coordinator, notice of a delay in performance, notice of an endangerment, or notice of a failure to obtain access to property not owned or leased by Respondents, but excluding proposed workplans and technical reports prepared pursuant to the SOW, Respondents shall also provide written notice to the individuals at the addresses specified below (in addition to the individuals listed in subparagraph 2 above) unless the individuals listed below or their successors give written notice of a change to Respondents.

**As to EPA:**

Laurie Williams, Esq.  
Office of Regional Counsel (ORC-3)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105  
Telephone: (415) 744-1387  
Facsimile: (415) 744-1041  
E-Mail: [williams.laurie@epa.gov](mailto:williams.laurie@epa.gov)

Brad O'Brien, Esq.  
Environmental Enforcement Division  
U.S. Department of Justice  
301 Howard Street  
San Francisco, CA 94105  
Telephone: (415) 744-6484  
Facsimile: (415) 744-6476  
E-Mail: [brad.o'brien@usdoj.gov](mailto:brad.o'brien@usdoj.gov)

**As to the Regional Board:**

Jorge Leon, Esq.  
State Water Resources Control Board  
901 P. Street  
Sacramento, CA 95814  
Telephone: (916) 657-2428



Facsimile: (916) 653-0428  
E-Mail: [JLEON@exec.swrcb.ca.gov](mailto:JLEON@exec.swrcb.ca.gov)

Marilyn Levin, Esq.  
Department of Justice  
Office of the Attorney General  
300 S. Spring Street, Suite 500  
Los Angeles, CA 90013  
Telephone: (213) 897-2612  
Facsimile: (213) 897-2616  
E-Mail: [levinm@hdcdojnet.state.ca.us](mailto:levinm@hdcdojnet.state.ca.us)

**As to the City of Santa Monica:**

Joseph Lawrence, Esq.  
Office of City Attorney  
City of Santa Monica  
1685 Main Street  
Santa Monica, CA 90401  
Telephone: (310) 458-8375  
Facsimile: (310) 395-6727  
E-Mail: [Joe-Lawrence@CI.SANTA-MONICA.ca.us](mailto:Joe-Lawrence@CI.SANTA-MONICA.ca.us)

Barry Groveman, Esq.  
Proskauer, Rose, Goetz & Mendelsohn  
2121 Avenue of the Stars, Suite 2700  
Los Angeles, CA 90067-5010  
Telephone: (310) 284-5667  
Facsimile: (310) 557-2193  
E-Mail: [BGROVEMAN@Proskauer.com](mailto:BGROVEMAN@Proskauer.com)

**As to the Southern California Water Company:**

Robert Saperstein, Esq.  
Hatch & Parent  
21 East Carrillo Street  
Santa Barbara, CA 93101-2782  
Telephone: (805)963-7000  
Facsimile: (805)865-4333  
E-Mail: [rob\\_saperstein@msn.com](mailto:rob_saperstein@msn.com)

4. EPA has been informed that Chuck Payne will act as Project Coordinator for Respondents and EPA will provide all correspondence and notices under this Order to Mr. Paine at the address listed above, unless Respondents provide a change of Project Coordinator and/or a new address and other

contact information.

5. EPA has been informed that Respondents have jointly designated the following attorney contact:

Tom Kearns  
Shell Oil Company  
Legal Department  
910 Louisiana St. OSP 481  
One Shell Plaza  
Houston, Texas

Telephone: (713) 241-5633  
Facsimile: (713) 241-5362  
E-Mail: [kearns@shellus.com](mailto:kearns@shellus.com)

#### **VIII. APPROVALS/DISAPPROVALS**

1. After review of any deliverable, workplan, report, or other item which is required to be submitted for review and approval pursuant to this Order, EPA may: (a) approve the submission; (b) approve the submission with modifications; (c) disapprove the submission and direct Respondents to re-submit the document after incorporating EPA's comments; or (d) disapprove the submission and assume responsibility for performing all or any part of the response action. As used in this Order, the terms "approval by EPA," "EPA approval" or a similar term means the actions described in clauses (a) or (b) of this paragraph. EPA may choose to provide its approval, modification or disapproval jointly with the Regional Board in a letter from the Agencies.
2. In the event of approval or approval with modifications by EPA, Respondents shall proceed to take all actions required by the plan, report, or other item, as approved or modified by EPA.
3. Upon receipt of a notice of disapproval or a request for a modification, Respondents shall, within twenty-one (21) days or such longer or shorter time as specified by EPA in its notice of disapproval or request for modification, correct the deficiencies and resubmit the plan, report, or other item for approval. Notwithstanding the notice of disapproval or approval with modifications, Respondents shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission.

4. In the event that a re-submitted plan, report or other item, or portion thereof is disapproved by EPA, EPA may again require Respondents to correct the deficiencies in accordance with the preceding paragraphs. EPA also retains the right to develop the plan, report or other item. Respondents shall implement any such plan, report or item as amended or developed by EPA.
5. If any submission is not approved by EPA after re-submission in accordance with the immediately preceding paragraph, Respondents shall be deemed in violation of the provision of this Order requiring Respondents to submit such plan, report or item.
6. Any deliverables, plans, reports or other item required by this Order to be submitted for EPA review and approval are, upon approval of EPA, incorporated into this Order and enforceable hereunder.

#### **IX. ADDITIONAL RESPONSE ACTIVITIES**

1. In the event EPA determines that additional response activities are necessary, in light of all relevant circumstances, to provide Water Replacement to the Impacted Parties, EPA may notify Respondents that additional response activities are necessary.
2. Unless otherwise stated by EPA, within thirty (30) days of receipt of notice from EPA that additional response activities are necessary, Respondents shall submit for EPA approval a workplan for the additional response activities. The workplan shall conform to all applicable requirements of this Order. Upon EPA's approval of the workplan pursuant to Section VIII (Approvals/Disapprovals) of this Order, Respondents shall implement the workplan for additional response activities in accordance with the provisions and schedule contained therein.

#### **X. ACCESS TO PROPERTY OWNED OR LEASED BY RESPONDENTS AND DATA/DOCUMENT AVAILABILITY**

1. If any of the property at which the Work required pursuant to this Order is to be performed is owned or leased by Respondents, then Respondents shall provide access to EPA and the Regional Board and their authorized representatives, as well as to the Impacted Parties and their authorized

representative, to observe and oversee the Work.

#### **XI. ACCESS TO PROPERTY NOT OWNED OR LEASED BY RESPONDENTS**

1. To the extent that any of the property at which the Work required pursuant to this Order is to be performed is not owned or controlled by Respondents, then Respondents will obtain, or use their best efforts to obtain, site access agreements from the present owner(s) and/or lessees, as the case may be, within sixty (60) days of the Effective Date of this Order if the need for site access is known as of the Effective Date of the Order, or, if not known as of the Effective Date of this Order, within sixty (60) days of EPA approval of any work plan, report or document pursuant to this Order which requires Work on such property. "Best efforts" as used in this paragraph shall include, at a minimum, but shall not be limited to: (a) a certified letter from Respondents to the present owner(s) and/or lessee(s) of the property requesting access agreements to permit Respondents, EPA, the Regional Board and the Impacted Parties and their authorized representatives access to such property, and (b) the payment of reasonable compensation in consideration for such access, if the owner and/or lessee of such property have not been designated as a Potentially Responsible Party (PRP) for the Charnock MTBE and other gasoline constituent contamination by the Agencies or is no longer designated as a PRP. "Reasonable sums of money" means the fair market value of the right of access necessary to implement the requirements of this Order.
2. All site access agreements entered into pursuant to this Order shall provide access for EPA, its contractors and oversight officials, the State and its contractors, and the Impacted Parties and their contractors, as well as Respondents and Respondents' authorized representatives. Such agreements shall specify that Respondents and their contractors are not EPA's representatives or agents.
3. If access agreements are not obtained within the time set forth above, Respondents shall immediately notify EPA, in writing, of the failure to obtain access, specifying the efforts undertaken to obtain access. Subject to the United States' non-reviewable discretion, EPA may elect to use its legal authorities to obtain access for the Respondents, may perform those response actions with EPA staff and/or contractors at the property in question, or may terminate the Order if Respondents cannot obtain access agreements.

If EPA performs those tasks or activities with staff and/or contractors and does not terminate the Order, Respondents shall perform all other activities not requiring access to that property, and shall reimburse EPA to the full extent allowed by law for all response costs incurred in performing such activities. Respondents shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables.

4. Respondents shall allow EPA and its authorized representatives, the Regional Board and its representatives, and the Impacted Parties and their representatives to enter and freely move about any property needed for the Work at all reasonable times for the purpose of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Work; reviewing the progress of Respondents in carrying out the terms of this Order; conducting tests as EPA or its authorized representatives deem necessary; using a camera, sound recording device or other documentary type equipment; verifying the data submitted to EPA by Respondents; and copying all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Order. Notwithstanding any provision of this Order, the United States and EPA retain all of their information gathering, inspection and access authorities and rights, including enforcement authorities related thereto.
5. No provision of this Order shall be interpreted as limiting or affecting Respondents' right to assert a business confidentiality claim, pursuant to 40 C.F.R. Part 2, Subpart B, covering all or part of the information submitted to EPA pursuant to the terms of this Order. If no such confidentiality claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to the Respondents. Respondents shall not assert any business confidentiality claim with regard to site conditions or any physical, sampling, monitoring or analytic data. Respondents shall maintain for the period during which the Order is in effect an index of any documents that Respondents claim contain confidential business information. The index shall contain, for each document, the date, author, addresses, and subject of the document as well as the pages on which any information claimed to be confidential business information appears. Upon written request from EPA, Respondents shall submit a copy of the index to EPA.

## **XII. ENDANGERMENT AND EMERGENCY RESPONSE**

1. In the event Respondents, or any of them, identify a current or immediate threat to human health and the environment, Respondent or Respondents, as the case may be, shall immediately notify the EPA Project Coordinator (or his alternate if not available) by telephone. If neither of these persons are available, Respondent or Respondents shall immediately notify the Chief, Office of Underground Storage Tanks at (415) 744-2079, and the EPA Region IX Emergency Response Section at (415) 744-2000. Simultaneous notification shall be made to the Regional Board's Project Manager by telephone. In addition to the required telephonic notice, written notification shall be made to EPA within twenty-four (24) hours of first obtaining knowledge of the threat, summarizing the immediacy and magnitude of the current or immediate threat to human health and the environment.
2. Respondents shall take immediate action to prevent, abate, or minimize the threat in consultation with EPA's Project Coordinator and in accordance with all applicable provisions of this Order, including but not limited to the Health and Safety Plan. Respondent shall thereafter submit for EPA approval, as soon as possible but no later than five (5) days after identification of the threat, a plan to mitigate the threat. EPA will approve or modify the plan, and Respondents shall implement the plan as approved or modified by EPA. In the event that Respondent or Respondents fail to take appropriate response action as required by this Section, and EPA takes that action instead, Respondent or Respondents shall reimburse EPA for all costs of the response action to the full extent allowed by law.
3. If EPA determines that any action or occurrence during the performance of the Work causes or threatens to cause a release or disposal of hazardous substances, pollutants or contaminants, regulated substances or hazardous or solid wastes which may present an imminent and substantial endangerment to the public health or welfare or the environment, EPA may direct Respondents to undertake any action EPA determines is necessary to abate such disposal or release or threatened release and/or direct Respondents to cease activities Respondents are then undertaking pursuant to this Order for such time as may be needed to abate any such disposal or release or threatened release.
4. Nothing in this Section shall be deemed to limit any

authority of the United States to take, direct or order all appropriate action to protect human health and the environment or to prevent, abate or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, regulated substances or hazardous or solid wastes.

### **XIII. RECORD PRESERVATION**

1. Respondents shall provide to EPA upon request copies of all documents and information within their possession and/or control or that of their contractors, employees or agents relating to activities required in connection with the Work or to the implementation of this Order, including but not limited to sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Upon request by EPA, Respondents shall also make available to EPA for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.
2. Until ten (10) years after termination of this Order, each Respondent shall preserve and retain all records and documents in its possession or control, including the documents in the possession or control of its contractors, employees or agents on and after the Effective Date of this Order that relate in any manner to the Work, including but not limited to records, documents or other information relating to its potential liability with regard to the Work. At the conclusion of this document retention period, each Respondent shall notify EPA at least ninety (90) calendar days prior to the destruction of any such records or documents, and upon request by EPA, shall deliver any such records or documents to EPA.
3. Until ten (10) years after termination of this Order, each Respondent shall preserve, and shall instruct its contractors and agents to preserve, all documents, records, and information of whatever kind, nature or description relating to the performance of the Work. Upon the conclusion of this document retention period, each Respondent shall notify the EPA at least ninety (90) days prior to the destruction of any such records, documents or information, and, upon request of the EPA, shall deliver all such documents, records and information to EPA.

#### **XIV. PROJECT COORDINATORS**

1. Within ten (10) days after the Effective Date of this Order, Respondents shall designate a Project Coordinator for compliance with this Order and shall submit the Project Coordinator's name, address, telephone number, facsimile number and e-mail address to EPA for review and approval. Respondents' Project Coordinator shall be responsible for overseeing Respondents' implementation of this Order. If Respondent(s) wish to change their Project Coordinator, said Respondent(s) shall provide written notice to EPA, five (5) days prior to changing the Project Coordinator, of the name and qualifications of the new Project Coordinator.
2. EPA hereby designates Steven Linder as the EPA Project Coordinator, and Greg Lovato as the EPA Alternate Project Coordinator. EPA has the unreviewable right to change its Project Coordinator and/or its Alternate Project Coordinator. If EPA changes its Project Coordinator or Alternate Project Coordinator, EPA will inform Respondents in writing of the name, address, and telephone number of the new Project Coordinator or Alternate Project Coordinator.
3. The Project Coordinators will be responsible for overseeing the implementation of the Work. The EPA Project Coordinator will be EPA's primary designated representative with respect to the Work for this purpose. To the maximum extent possible, all communications, whether written or oral, between Respondents and EPA concerning the Work to be performed pursuant to this Order shall be directed through the Project Coordinators.

#### **XV. QUALITY ASSURANCE, SAMPLING, DATA ANALYSIS AND PRIOR NOTICE OF FIELD ACTIVITIES**

1. Respondents shall comply with the EPA quality assurance and quality control requirements, except to the extent that they are modified by specific requirements pursuant to this Order. To provide quality assurance and maintain quality control, Respondents shall:
  - a. Ensure that the laboratory used by Respondents for



analyses performs according to a method or methods deemed satisfactory to EPA and submits all protocols to be used for analyses to EPA as part of the sampling and analysis plan described in subparagraph c., below. If methods other than those in SW-846 are proposed for use, Respondents shall submit all proposed protocols accompanied by an appropriate justification and a demonstration of the effectiveness and applicability of the proposed alternative to EPA for approval at least thirty (30) days prior to the commencement of analysis and shall obtain EPA approval prior to the use of such protocols.

- b. Ensure that EPA personnel and EPA's authorized representatives are allowed access to the laboratory and personnel utilized by Respondents for analyses.
  - c. Prepare and submit a sampling and analysis plan for collection of data, based on the guidance listed above, no less than thirty (30) days prior to commencing field sampling activities, or, in the case of field activities to be performed in connection with any Assessment Work Plan, at the time of the submission of such Assessment Work Plan to EPA for review and approval.
2. Notify EPA, the Regional Board and the Impacted Parties in writing at least 5 days before engaging in any field activities pursuant to this Order. At the request of EPA, Respondents shall provide or allow EPA, the Regional Board, the Impacted Parties or their authorized representatives to draw split or duplicate samples of all samples collected by Respondents with regard to this Work or pursuant to this Order. Nothing in this Order shall limit or otherwise affect EPA's authority to draw samples pursuant to applicable law.
  3. Respondents shall submit to EPA, the Regional Board and the Impacted Parties the results of all sampling and/or tests and other data generated by, or on behalf of, Respondents, in accordance with the requirements of this Order, the SOW and any workplans approved under this Order.

#### **XVI. DELAY IN PERFORMANCE**

1. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondents under the terms of this paragraph shall be considered a violation of this Order. Any delay in performance of this Order shall

not affect Respondents' obligations to fully perform all obligations under the terms and conditions of this Order.

2. Respondents shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to EPA's Project Coordinator or Alternate Project Coordinator within forty-eight (48) hours after Respondent or Respondents first knew or should have known that a delay might occur. Respondent or Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying EPA by telephone, EPA shall be provided with written notification fully describing the nature of the delay, any justification for the delay, any reason why Respondent(s) should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effects of the delay. Increased costs or expenses associated with implementation of the activities called for in this Order are not a justification for any delay in performance.

#### **XVII. RESERVATION OF RIGHTS, NON-WAIVER, COMPLIANCE WITH LAWS AND ENFORCEMENT**

1. EPA hereby reserves all of its statutory and regulatory powers, authorities, rights, remedies and defenses, both legal and equitable, including the right to disapprove Work performed by Respondents pursuant to this Order, to perform any portion of the Work required herein and to require that Respondents perform tasks in addition to those required by this Order. This reservation of rights also includes the right to require additional investigation, characterization, feasibility studies and/or response or corrective actions pursuant to RCRA, the Safe Drinking Water Act (SDWA) or other applicable legal authorities. EPA reserves its right to seek reimbursement from Respondents for costs incurred by the United States to the full extent allowed by law. This Order shall not be construed as a covenant not to sue, release, waiver or limitation of any rights, remedies, powers or authorities, civil or criminal, which EPA has under RCRA, SDWA, or any other statutory, regulatory or common law enforcement authority of the United States.
2. EPA further reserves all of its statutory and regulatory powers, authorities, rights and remedies, both legal and

equitable, which may pertain to Respondents' failure to comply with any of the requirements of this Order, including without limitation, the assessment of penalties under Sections 7003 and 9006 of RCRA, 42 U.S.C. Sections 6973 and 6991e. Nothing in this Order shall limit or preclude EPA from taking any additional enforcement actions, including modification of this Order or issuance of additional Orders, or from requiring Respondents in the future to perform additional activities pursuant to Subtitle I of RCRA, 42 U.S.C. Section 6991 et seq., and the regulations promulgated thereunder, or any other applicable law or regulation and/or from taking additional actions as EPA may deem necessary at the Respondents' Source Sites, the Charnock Wellfields, or at any other facility. EPA reserves its right to seek reimbursement from Respondents for such costs incurred by the United States to the full extent allowed by law, including, but not limited to a cost recovery action under RCRA, including Section 9003(h) of RCRA, 42 U.S.C. Section 6991b(h) of RCRA.

3. All activities undertaken by Respondents pursuant to this Order shall be performed in accordance with the requirements of all applicable federal, state and local laws and regulations. Compliance by Respondents with the terms of this Order shall not relieve Respondents of their obligations to comply with RCRA or any other applicable federal or state laws and regulations.
4. This Order is not, and shall not be construed as a permit issued pursuant to any federal or state statute or regulation. This Order does not relieve Respondents of any obligation to obtain and comply with any federal, state or local permit. Where any portion of the Work requires a federal, state or local permit or approval, Respondents shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.
5. Notwithstanding any provision of this Order, the United States hereby retains all of its information gathering, inspection and enforcement authorities and rights under Sections 3007, 7003 and 9005 of RCRA, 42 U.S.C. Section 6927, 6973 and 6991d, Section 1431 of SDWA, 42 U.S.C. Section 300i, and any other applicable statutes or regulations.
6. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership, entity or

corporation for any liability such person, firm, partnership, entity or corporation may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous constituents, hazardous substances, hazardous wastes, regulated substances, pollutants, contaminants or solid wastes generated, transported or handled in connection with the Work.

7. If a court issues an order that invalidates or stays any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

#### **XVIII. LIABILITY INSURANCE**

1. At least seven (7) days prior to commencing any Work required pursuant to this Order, each Respondent shall submit to EPA a certification that Respondent or its contractors and subcontractors have adequate insurance coverage or have indemnification for liabilities for injuries or damages to persons or property which may result from the activities to be conducted by or on behalf of Respondent pursuant to this Order. Comprehensive general liability insurance coverage or indemnification shall be at least in the amount of two million dollars (\$2,000,000) in annual aggregate coverage. Each Respondent shall ensure that such insurance or indemnification is maintained for the duration of the Work required by this Order.

#### **XIX. OPPORTUNITY TO CONFER**

1. Respondent(s) may, within ten (10) days after the date this Order is signed, request a conference with EPA to discuss this Order. If requested, the conference shall occur at a time and location to be selected by the Agencies in consultation with Respondents.

2. The purpose and scope of the conference shall be limited to issues involving the implementation of the Work and any other response actions required by this Order and the extent to which Respondents intend to comply with this Order. This conference is not an evidentiary hearing, and does not constitute a proceeding to challenge this Order. It does not give Respondents a right to seek review of this Order, or to seek resolution of potential liability, and no official stenographic record of the conference will be made. At any conference held pursuant to Respondents' request, each Respondent may appear in person or by an attorney or other representative.
3. Requests for a conference must be made by telephone ((415) 744-1387) followed by written confirmation mailed that day to Laurie Williams, Assistant Regional Counsel (ORC-3), at United States Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105, or by facsimile to (415) 744-1041.

#### **XX. NOTICE OF INTENTION TO COMPLY**

1. Each Respondent shall provide, not later than the Effective Date of this Order, written notice to Laurie Williams, Assistant Regional Counsel, at the address set forth above, stating whether it will comply with the terms of this Order. If each Respondent does not unequivocally commit to perform the Work required by this Order, then that Respondent shall be deemed to have violated this Order and to have failed or refused to comply with this Order. The absence of a response by EPA to the notice required by this paragraph shall not be deemed to be acceptance of any assertions that Respondents may make in their respective notices.

#### **XXI. PENALTIES FOR NON-COMPLIANCE**

1. Section 7003(b) of RCRA, 42 U.S.C. Section 6973(b), provides that "[a]ny person who willfully violates, or fails or refuses to comply with, any Order of the Administrator under [RCRA Section 7003(a)] may, in an action brought in the appropriate United States district court to enforce such order, be fined not more than \$5,000 for each day in which such violation occurs or such failure to comply continues." This amount is subject to the increase provided for in Public Law 101-410, enacted October 5, 1990; 104 Stat. 890, as amended by the Debt Collection Improvement Act of 1996

(31 U.S.C. 3701). See 61 Fed. Reg. 69359 (December 31, 1996)(Civil Monetary Penalty Inflation Adjustment Rule; Final Rule); 40 C.F.R. Part 19.

#### **XXII. NO FINAL AGENCY ACTION**

1. Notwithstanding any other provision of this Order, no action or decision by EPA pursuant to this Order, including without limitation, decisions of the Regional Administrator, the Director of the Waste Management Division or her successor, or any authorized representative of EPA, shall constitute final agency action giving rise to any rights of judicial review prior to EPA's initiation of a judicial action for violation of this Order, which may include an action for penalties and/or an action to compel Respondents' compliance with the terms and conditions of this Order. In any action brought by EPA to enforce this Order, Respondents shall bear the burden of proving that EPA's action was arbitrary and capricious or not in accordance with law.

#### **XXIII. EFFECTIVE DATE AND COMPUTATION OF TIME**

1. This Order shall be effective without further notice thirty (30) days after the Order is signed by the Director of the Waste Management Division ("Effective Date"). All times for performance of ordered activities shall be calculated from this Effective Date, unless otherwise specified.

#### **XXIV. MODIFICATION AND INTERPRETATION**

1. This Order may be amended or modified by EPA. Such amendment shall be in writing and shall have as its effective date that date which is ten (10) days after the date the amendment or modification is signed by the Director of the Waste Management Division, unless otherwise specified therein.
2. The EPA Project Coordinator may agree to changes in the scheduling of Work. Any such changes must be requested in writing by Respondents and be approved in writing by the EPA Project Coordinator.
3. No informal advice, guidance, suggestions or comments by EPA regarding reports, plans, specifications, schedules and any other writing submitted by Respondents will be construed as

an amendment or modification of this Order.

4. The headings in this Order are for convenience of reference only and shall not affect interpretation of this Order.

**IT IS SO ORDERED.**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION IX

*Original signed by JA September 22, 1999*

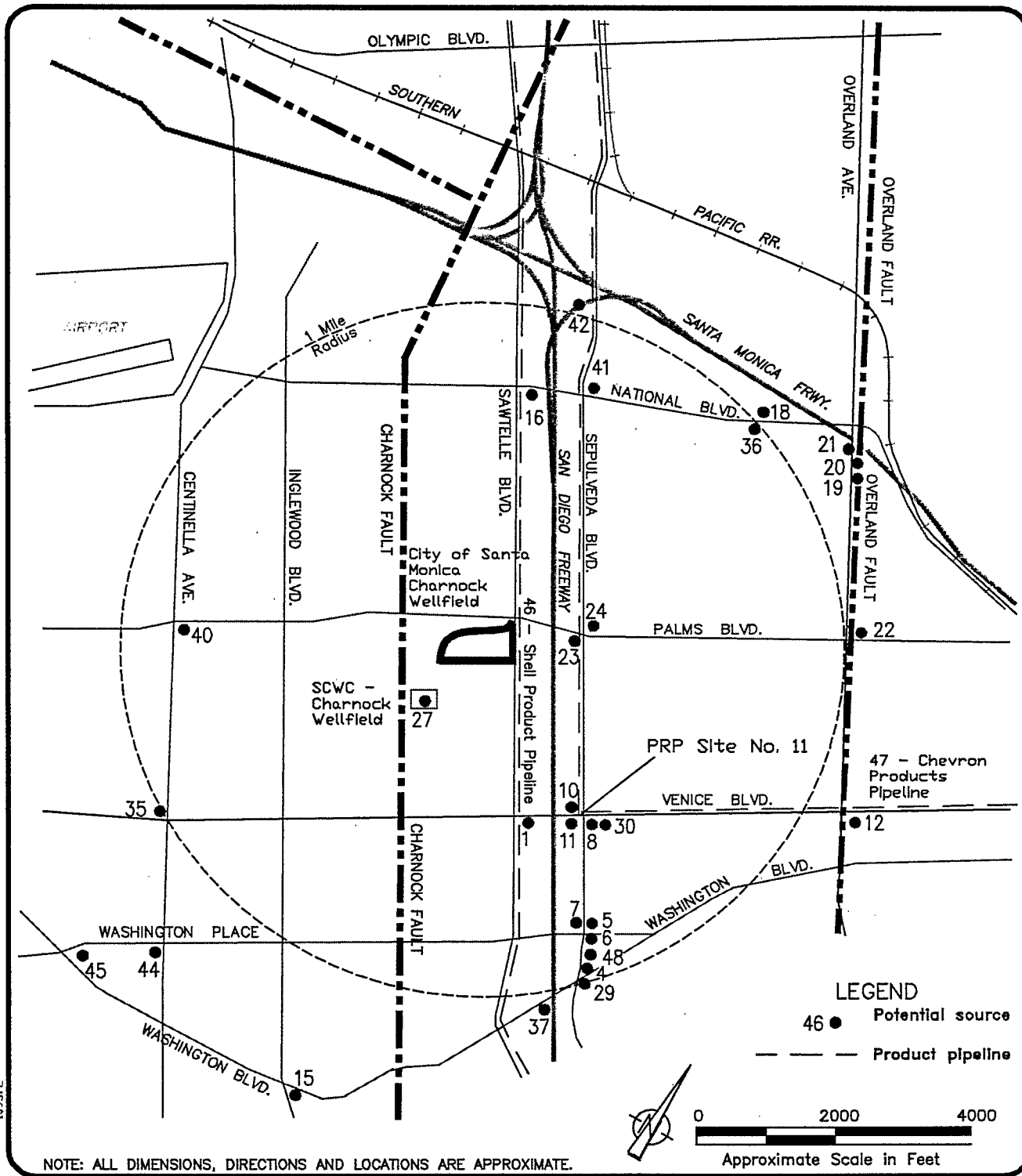
By:

\_\_\_\_\_  
JULIE ANDERSON  
Director  
Waste Management Division  
EPA REGION IX

DATED: September \_\_\_\_\_, 1999

# FIGURE 1





Los Angeles  
Regional Water  
Quality Control  
Board / U.S.  
Environmental  
Protection Agency



# **SITE PLAN** CHARNOCK WELL FIELD VICINITY SHOWING PRP REGION AND LOCATION OF POTENTIAL SOURCES SANTA MONICA, CALIFORNIA

PROJECT NO.	DATE	FIGURE
	09/99	1

# ATTACHMENT A

**ATTACHMENT A  
SCOPE OF WORK  
FOR  
WATER REPLACEMENT**

**CHARNOCK SUB-BASIN MTBE CONTAMINATION**

**ORDERS TO SHELL OIL COMPANY, SHELL OIL PRODUCTS  
COMPANY AND EQUILON ENTERPRISES LLC**

**INTRODUCTION**

This Scope of Work is provided as an attachment to Orders directed to Respondents, Shell Oil Company, Shell Oil Products Company and Equilon Enterprises LLC (collectively “Respondents”), by the California Regional Water Quality Control Board, Los Angeles Region (Cleanup and Abatement Order No. 99-085), and the United States Environmental Protection Agency, Region 9 (Administrative Order U.S. EPA Docket No. RCRA 7003-09-99-0007) (“Orders”).

The purpose of these Orders, and this common Scope of Work, is to require Respondents to provide Water Replacement to the City of Santa Monica and the Southern California Water Company (collectively “the Impacted Parties”) for a period of five (5) years beginning on January 7, 2000. As described in greater detail in the findings of the Agencies’ Orders, Water Replacement is needed because of the impact of MTBE and other gasoline constituent contamination, to which Respondents have contributed, on the drinking water supplies of the Impacted Parties.

**DEFINITIONS**

Unless otherwise expressly provided herein, terms used in this Scope of Work, and the Orders of which it is a part, shall have the meanings which are assigned to them in RCRA and in the California Water Code. Except where otherwise noted, the definitions provided in the Agencies’ Orders will apply to this Scope of Work, as modified and/or supplemented by the following definitions:

- (1) “Agencies” shall mean either (a) the California Regional Water Quality Control Board, Los Angeles Region (“Regional Board”), or (b) the United States Environmental Protection Agency, Region 9 (“EPA”), or (c) both of these agencies acting jointly. Neither a challenge to one agency’s order nor the decision by one agency not to enforce its order will affect the ability of the other agency to enforce all requirements of that agency’s order, including this Scope of Work.
- (2) “Impacted Parties” shall mean the City of Santa Monica (“City”) and the Southern California Water Company (“SCWC”).
- (3) “Monthly Payment Amounts” shall mean the total amount of the payments to be made to each of the Impacted Parties each month beginning January 7, 2000, if Respondents comply with the Agencies’ Orders by providing Water Replacement Payments.

- (4) "RCRA" shall mean the Resource Conservation and Recovery Act, as amended (also referred to as the Solid Waste Disposal Act), 42 U.S.C. Sections 6901, et seq.
- (5) "Release" shall mean discharge(s) or disposal as those terms are used in RCRA and the California Water Code.
- (6) "Respondents" shall mean Shell Oil Company, Shell Oil Products Company and Equilon Enterprises, LLC.
- (7) "Water Replacement" shall mean:
- (a) the provision of water to the Impacted Parties which must be
    - (i) of sufficient water quality to meet all applicable federal, state and local water quality requirements, including all permit requirements;
    - (ii) of water quality compatible with the Impacted Parties' existing water supply systems' requirements and operational needs, and
    - (iii) the quantity of water which was being served by the Impacted Parties to their customers from their Charnock Sub-Basin Wellfields prior to shutdowns related to the discovery of MTBE contamination at the City's wellfield, plus any increase in production which the Impacted Parties can demonstrate could have been and would have been extracted from the Charnock Sub-Basin beyond the quantity being extracted at the time of discovery of the MTBE and other gasoline constituent contamination, but for the discovery of the MTBE and other gasoline constituent contamination; or
  - (b) provision of funding to the Impacted Parties sufficient to pay for all costs associated with the purchase and use of the water described in subparagraph (a) of this paragraph, including any additional operational costs.
- (8) "Water Replacement Quantities" shall mean the specific quantities of Water Replacement that the Agencies require Respondents to supply to each of the Impacted Parties, in accordance with the definition of Water Replacement provided above.
- (9) "Water Replacement Payments" shall mean money that Respondents pay to the Impacted Parties in lieu of the provision of Water Replacement.

#### **TASK 1 – PROVISION OF WATER REPLACEMENT AND WATER REPLACEMENT PAYMENTS**

- (1) Provision of Water Replacement (Time Period/Uninterrupted Service): Respondents are required to provide Water Replacement to the City of Santa Monica and to the Southern California Water Company for a period of 5 years beginning on January 7, 2000. Water Replacement must be provided in a manner that allows the uninterrupted service of drinking water to the Impacted Parties' customers.
- (2) Water Replacement Quantities: Respondents shall provide no less than the following Water Replacement Quantities to the Impacted Parties, unless a different amount is approved or ordered by the Agencies:

City of Santa Monica: 6320 acre feet per year

Southern California Water Company: 577 acre feet per year

Nothing in this Scope of Work, or in the Orders of which it is a part, is intended to be a determination of relative property rights of the City of Santa Monica or the Southern California Water Company to the groundwater in the Charnock Sub-Basin, or otherwise influence, prejudice or interfere with the resolution of the City of Santa Monica's and Southern California Water Company's claims regarding their respective water rights in the Charnock Sub-Basin. The Water Replacement Quantities included in this Scope of Work are **not** the result of a legal determination, based on applicable laws governing property rights to groundwater, of the Impacted Parties' relative rights to the groundwater in the Charnock Sub-Basin. Rather, the Water Replacement Quantities are simply intended to preserve the status quo at the time of wellfield shut downs, by providing the Impacted Parties with Water Replacement in the quantities extracted by their respective Charnock Wellfields during the last complete calendar year of pumping (1995). Nor is this Scope of Work, or the Orders of which it is a part, intended in any way to limit any rights the Impacted Parties may have to seek additional compensation beyond the provisions of this Scope of Work, or the Orders of which it is a part from parties, including but not limited to Respondents, who have contributed to contamination of the Charnock Sub-Basin.

- (3) Use of Treated Water from the Charnock Sub-Basin: Respondents may only use treated water from the Charnock Sub-Basin to comply with their obligation to provide Water Replacement if the operation of the treatment plant and quality of the resulting treated water comply with all federal, state and local requirements applicable to public water supply systems, including applicable permit conditions.
- (4) Water Replacement Payments: Respondents may provide the Impacted Parties with Water Replacement Payments, in lieu of Water Replacement. Respondents shall pay each Impacted Party all costs associated with the required Water Replacement Quantity, which includes all costs associated with acquisition, use and operational requirements of such Water Replacement Quantity above the costs previously incurred by the Impacted Parties to acquire and use that quantity of water from their Charnock Wellfields. Respondents shall make payments to each Impacted Party of one twelfth of the annual cost of Water Replacement by the 7<sup>th</sup> of each month, beginning with a payment due by January 7, 2000. Payments shall be provided by check to the following parties and addresses in the specified Monthly Payment Amounts:

**As to the City of Santa Monica:**

Make checks payable to: City of Santa Monica  
Mail checks to:  
City of Santa Monica  
Director, Environmental and Public Works Management  
1685 Main Street  
Santa Monica, California 90401  
Monthly Payment Amount: \$249,757.56

**As to the Southern California Water Company:**

Make checks payable to: Southern California Water Company

Mail checks to:

Regional Vice President, Region II

Southern California Water Company

1920 West Corporate Water

Anaheim, California 92801

Monthly Payment Amount: \$21,974.08

(5) Adjustments: Respondents may seek an adjustment in the Water Replacement Quantities and/or the Monthly Payment Amounts that they are supplying to the Impacted Parties. If Respondents believe that an adjustment should be made, Respondents shall submit a Request for Adjustment to the Agencies, detailing the reasons that the Agencies' current requirements for Water Replacement Quantities and/or Monthly Payment Amounts should be changed. The Agencies may also adjust the Water Replacement Quantities and/or Monthly Payment Amounts, if the Agencies determine, based on information received from the Impacted Parties or any other source, that an adjustment is necessary to insure that the Quantities and/or Amounts provided are appropriate. In the event of a request from the Respondents or Impacted Parties for such a change, or a determination by the Agencies based on other information, the Agencies will allow Respondents and the Impacted Parties an opportunity to comment on the Agencies' proposed change in Water Replacement Quantities and/or Monthly Payment Amounts. Such changes shall be at the Agencies' sole discretion.

**TASK 2 – WORKPLAN**

By October 22, 1999, Respondents shall present the Agencies with a workplan for the provision of Water Replacement to the Impacted Parties. At a minimum, the Water Replacement Workplan shall include:

- (a) the method by which the required Water Replacement Quantities will be provided to the Impacted Parties;
- (b) an evaluation of the compatibility of the Water Replacement with the Impacted Parties' water systems;
- (c) an evaluation of the reliability of the source of the Water Replacement;
- (d) if Respondents will comply by providing Water Replacement Payments, Respondents shall so specify;
- (e) the Respondents plans for coordination with the Impacted Parties; and
- (f) any problems anticipated in the provision of the required Water Replacement Quantities.

As stated below, in the section of this Scope of Work describing approvals, the Water Replacement Workplan proposed by Respondents shall be subject to approval, disapproval or approval with modifications by the Agencies.

Respondents shall begin implementation of the approved Water Replacement Workplan immediately upon receipt of the Agencies' approval, or approval with modifications, consistent with the approved schedule contained in the Water Replacement Workplan, the requirements of this Scope of Work and the Orders of which it is a part.

### **TASK 3- REPORTING**

Beginning on January 7, 2000 and every three months thereafter (due April 7, July 7, October 7, etc.), Respondents shall provide the Agencies with a quarterly report detailing:

- (1) The methods by which Respondents are complying with the Orders, and by which Respondents intend to comply in the future;
- (2) The Water Replacement Quantities and Water Replacement Payments that Respondents have provided to the Impacted Parties during the prior quarter and the quantity or payments which Respondents expect to provide in the upcoming quarter;
- (3) If more than one source of water is involved, the volumes from each such source;
- (4) Any problems encountered in supplying the Water Replacement Quantities or Water Replacement Payments, and the actions proposed by Respondents to address these problems; and
- (5) Any problems anticipated during the upcoming reporting period, and the actions proposed by Respondents to address these problems.

The reporting periods and due dates applicable to the quarterly reports required by this task shall be as follows:

<u>Reporting Period</u>	<u>Quarterly Report Due Date</u>
October 1 – December 31	January 7
January 1 – March 31	April 7
April 1 – June 30	July 7
July 1 – September 30	October 7

### **TASK 4 – CERTIFICATION OF COMPLETION**

When Respondents believe that they have completed all requirements of this Scope of Work, Respondents shall submit a report certifying completion of these requirements. Each Respondent shall provide a certification by a responsible corporate officer under penalty of perjury.

### **APPROVAL, MODIFICATION OR DISAPPROVAL**

All submittals required pursuant to this Scope of Work shall be subject to the Agencies' approval, approval with modifications, or disapproval, consistent with the Orders of which this Scope of Work is a part.

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